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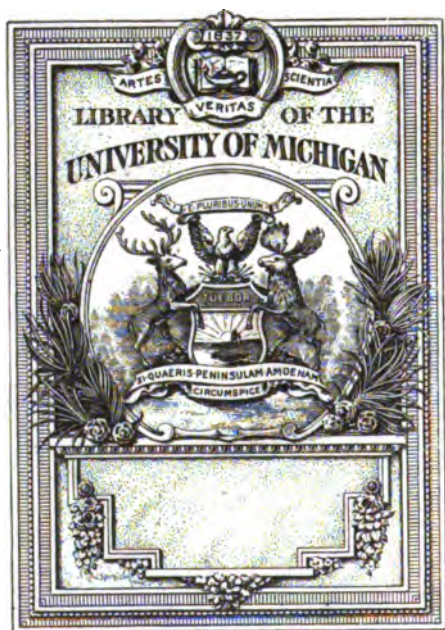
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CONSULAR REPORTS.

43976

COMMERCE, MANUFACTURES, ETC.

VOL. XLIII.

Nos. 156, 157, 158, and 159.

SEPTEMBER, OCTOBER, NOVEMBER, AND DECEMBER, 1893.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1893.

DISTRIBUTION OF CONSULAR REPORTS.

In view of the great pains taken by the diplomatic and consular officers of the United States in the preparation and transmission of reports upon commercial matters and subjects of general interest, it is proper that they should be informed of the manner and extent of the distribution of these reports after they are received.

It is the practice of the Department to give at once to the press abstracts of dispatches containing commercial information, the value of which would be lost by any delay in the publication. But in most instances such dispatches are, after revision in the Bureau of Statistics, printed in the Department. From the type are struck off four or five hundred copies of those reports which are of immediate interest. These, marked "Advance Sheets of Consular Reports, ——— Number," are promptly mailed to such newspapers and trade journals as are especially devoted to the dissemination of the kind of information that they contain. Later on plates are made at the Government Printing Office from the type containing these and other reports, from which is struck the monthly edition of the "Consular Reports on Commerce, Manufactures, etc." These come from the press about the 15th of each month. The mailing list, containing the names of those to whom these reports are sent, has been recently rigidly revised. At present it embraces about 1,200 newspapers and journals, 600 libraries, 150 boards of trade, and 3,000 individuals. The responses to the Department's circular of May 6, 1892, concerning the contemplated revision of this list furnish strong corroboration of Mr. Evarts's declaration made in 1880 that the prompt publication of commercial information furnished by ministers and consuls had been "received with the greatest favor and * * * had the effect not only of adding to the interest in and knowledge of foreign trade, but of raising the foreign service of the Government in the estimation and appreciation of the country."

In compliance with the act of Congress approved June 18, 1888, agricultural and horticultural reports of consular officers are at once, upon their receipt, transmitted to the Department of Agriculture, that they may be embodied in the monthly bulletin of crop reports, or in the report of the Statistician of that Department.

Report No. 106 for July, 1893, of the Statistician of the Agricultural Department contains, for example, "Notes on Foreign Agriculture" from the reports of United States consular officers, extending from page 248 to page 262.

The Department has made arrangements for supplying also the Smithsonian Institution, for publication, certain information obtained and transmitted by consular officers.

Whenever, indeed, the subject-matter of these reports seems to the Department to fall more properly within the province of another Department or bureau, the best results are, in its opinion, obtained by transmitting them to such other Department for publication. The very valuable treatises, for example, which were prepared by consular officers upon the civil service of other governments, in compliance with circular of this Department of February 21, 1893, have been given to the Civil Service Commission for publication in its annual report.

The Department receives in exchange for these reports about fifty trade journals, in which it observes frequent editorial allusions to the commercial facts communicated by the consuls of the United States. Very often these journals publish the whole or the greater part of these reports. It is, indeed, not unusual for a report upon some new process or one containing valuable suggestions concerning the enlargement of trade relations to appear again and again in the columns of these trade papers. For the purpose of bringing both the Department and the foreign service in closer touch with the commercial world the following letter was addressed June 12, 1893, to the more prominent papers of this character:

This Department is informed that certain trade and commercial journals are sent by their publishers to the consular officers of the United States for the purpose of furthering the introduction of American products and manufactures into their respective districts.

With a view to ascertaining the extent to which such papers are furnished, I have the honor to request that you will inform the Department whether your paper is sent to any of these officers, and if so, to which ones.

This Department is endeavoring to increase the value of the information relating to the commercial and manufacturing interests of the country, collected through its consular service, by the publication of advance sheets of the monthly CONSULAR REPORTS, giving timely information to trade and commercial papers concerning matters of special interest to their readers. Though the Department recognizes the valuable assistance which trade and commercial papers can render its officers by keeping them informed regarding American machinery, tools, and general products, it is not authorized to subscribe for them. It may be remarked, however, that papers sent to consuls will receive careful attention and will help them to enlarge the markets for the goods of those advertising in these journals.

A list of consulates is inclosed for the purpose of enabling you to make a selection of proper officers to receive your journal if you should consider it advisable to act upon this suggestion.

It was, of course, not expected by the Department that any considerable number of trade journals would be sent to all consular officers. Every proper end, it was considered, would be gained if each consul could obtain such journals as represented the industries of the United States to whose development he might contribute.

The following list contains the names of those journals which, as the Department was informed in reply to the circular above mentioned, will be sent to all or a large number of consular officers:

American Engineer and Railroad Journal (New York) to majority of consular officers.

American Exporter and El Exportador Americano (New York and Chicago) to consular officers in all parts of the world.

American Implement Herald (Indianapolis, Ind.) to "quite a number" of consular officers.

American Machinist (New York) to 150 consular officers.

American Wood-Worker (Buffalo, N. Y.) to all consular officers.

Bonfort's Wine and Spirit Circular (New York) to 9 consular officers.

Carriage and Wagon Maker (Chicago, Ill.) to the "better part" of the consular officers.

Carriage Monthly (Philadelphia) to 27 consular officers.

Carriage World (Cincinnati, Ohio) to all consular officers.

Clothiers' and Haberdashers' Weekly (New York) to 25 consular officers.

Contanseau's Monthly Bulletin (New York) to all consular officers.

El Comercio (New York) to 90 consular officers.

Electrical Engineer (New York) to 33 consular officers and 5 legations.

Farm Implement News (Chicago, Ill.) to all consular officers at "frequent intervals."

Harness Gazette (Rome, N. Y.) to 4 consular officers, and "may increase list materially."

Hat Review (New York) to 13 consular officers.

Hide and Leather (Chicago, Ill.) to principal consular officers.

Ice and Refrigeration (Chicago, Ill.) to 115 consular officers.

India Rubber World (New York) to 5 consular officers.

Iron Industry Gazette (Buffalo, N. Y.) to all consular officers.

Jewelers' Weekly (New York) to 25 consular officers.

Lumber World (Buffalo, N. Y.) to all consular officers.

McFaul's Factory and Dealers' Supply World (Buffalo, N. Y.) to all consular officers.

Merchants' Review (New York) to 9 consular officers.

Milling World (Buffalo, N. Y.) to all consular officers.

Pacific Coast Wood and Iron (San Francisco, Cal.) to all consular officers.

Pacific Lumberman, Contractor and Electrician (San Francisco, Cal.) to 80 consular officers.

Pawtucket Commercial Bulletin (Pawtucket, R. I.) to some of the principal consular officers.

Providence Journal of Commerce (Providence, R. I.) to some of the principal consular officers.

Sewing Machine Times (New York) to all consular officers occasionally.

Shoe and Leather Reporter (New York) to "some" of the consular officers.

Spanish-American Buyer (New York) to 102 consular officers.

Street Railway Review (Chicago, Ill.) to a "large number" of consular officers "occasionally."

Western Brewer (Chicago, Ill.) to 115 consular officers.

Wine and Spirit Bulletin (Louisville, Ky.) to "all, or at least most," consular officers "for six months."

Wine and Spirit Gazette (New York) to 14 consular officers.

Wool and Cotton Reporter (Boston, New York, and Philadelphia) to about 12 consular officers.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

VOL. XLIII.

SEPTEMBER, 1893.

No. 156.

A NEW COMMERCIAL OPPORTUNITY.

Readers of European politics are generally aware that during the past two months a serious disagreement has occurred between the governments of Russia and Germany in respect to a commercial treaty between the two countries, and that as a result negotiations were broken off, and Russia decreed against Germany a retaliatory tariff in which all existing import duties should be advanced 50 per cent. Germany promptly retorted by declaring a similar increase of 50 per cent in the duties on all imports from Russia. These two measures, which took effect simultaneously yesterday (August 1) have practically suspended commerce between the two countries in several important classes of merchandise.

Under the best possible circumstances, and even with good will on both sides, the present German embargo against Russia can not be modified by the adoption of a new treaty until the meeting of the Parliament at Berlin in November, by which time most of the rivers and canals of Russia will be closed to navigation, leaving the transportation of freight exclusively to the railways, whose rates for long distances, especially in Russia, are practically prohibitory for grain and coarse products of all kinds. The Russo-German commerce for the coming autumn and winter must therefore practically cease or struggle along under a 50 per cent increase in the already high import duties exacted by both countries upon even such articles as food and other necessities of life. American producers and exporters will do well to examine somewhat critically the nature and extent of the opportunity which is thus suddenly opened to products from the United States.

The first requisite to such an examination is a synopsis of the quantity and character of the merchandise which has hitherto been exchanged between Germany and Russia. Not all the statistics of last year's commerce are yet available, but it is known that in 1892 Russia sold to Germany rye

valued at \$21,420,000, besides 300,000 barrels of refined petroleum and 78,000 barrels of petroleum products, mainly lubricating oils, which are largely used by the German State railways. In other respects the Russo-German trade of 1892 did not differ essentially from that of 1891, during which year the exchanges were as follows:

Russian imports from Germany.

Articles.	Amount.	Articles.	Amount.
Cotton and cotton goods.....	\$1,678,852	Books and works of art.....	\$1,086,470
Drugs and medicines.....	4,785,942	Groceries.....	4,149,530
Ores, earthen, and precious metals.....	28,418,886	Paper and paper ware.....	332,724
Hides and skins.....	2,236,486	Silk and silk goods.....	3,990,546
Lumber and carved wood.....	822,056	Coal and coke.....	822,766
Machines and instruments.....	3,245,844	Tar, pitch, resin, and asphalt.....	282,030
Clothing and linens.....	331,772	Manufactures of clay.....	251,804
Copper and copper manufactures.....	1,127,644	Wool and woolen goods.....	3,681,146
Hardware.....	1,011,024	Zinc and manufactures thereof.....	503,370
Leather and leather goods.....	787,542		

German imports from Russia.

Articles.	Amount.	Articles.	Amount.
Drugs and medicines.....	\$1,285,200	Groceries.....	\$7,725,718
Ores and precious metals.....	607,852	Petroleum.....	2,049,418
Flax and other fibers.....	14,156,942	Oils and fats.....	1,680,756
Cereals.....	89,504,898	Stone and crockery.....	380,086
Hair.....	4,296,614	Animal products.....	7,738,570
Hides and skins.....	6,980,778	Cattle and horses.....	5,124,616
Lumber and staves.....	21,390,964	Wool and woolen goods.....	1,792,616
Caoutchouc and gutta-percha.....	627,130		

The pertinent question in this connection is how much of this vast total the United States will be able to furnish at prices within the artificial limit now established by the retaliatory tariffs, which, so far as they go, are enactments by both Germany and Russia in favor of all other producing countries, and notably the United States.

As to petroleum and petroleum products, it may be assumed that nearly the entire supply which Germany has hitherto derived from Russia will be imported, so long as the present status continues, from the United States. Already, yesterday, a large order for lubricating oils was placed with the agent of an American firm by the purchasing agent of the Prussian State railways, which have hitherto purchased their entire supply in Russia. In 1892, which was agriculturally a fair average year in Germany, this country imported from Russia, as we have seen, \$21,420,000 worth of rye alone. This year the deficit in the German home crop is greater than in 1892, and the demand will be proportionately increased. Rye is a cereal which it is always difficult for German importers to find in large quantities elsewhere than in Russia, so that it may be safely assumed that every bushel of rye

that the United States can spare from now until next July will find a ready market in Germany.*

How seriously the present advance of the grain tariffs will affect Russian exports to Germany will be evident when it is considered that the ordinary German import duty on rye and wheat is 5 marks per 100 kilograms, equal to 32 cents per bushel. Add to this the present retaliatory increase of 50 per cent, and we have a duty of 48 cents per bushel, or a difference of 16 cents per bushel in favor of the United States, India, and such other nations as have a surplus of rye and wheat to sell.

It will be noticed that the imports from Germany into Russia have been hitherto largely manufactured goods, whereas German imports from Russia have been principally of the nature of raw materials. The import duties on most of them are already so high in both countries that a 50 per cent increase will be practically prohibitory, provided the supplies which each has hitherto imported from the other can be reasonably obtained elsewhere. Here, then, is a new and timely opportunity which American producers and exporters will assuredly not fail to study and improve.

FRANK H. MASON,
Consul-General.

FRANKFORT, *August 2, 1893.*

THE FODDER SCARCITY IN GERMANY.

Germany is suffering very severely from a scarcity of hay and fodder. The deficit is so great that it has taken the form of a national calamity. In places protests are being made against the fall army maneuvers, because of the so-called *futternot* (fodder scarcity).

The crop failure is widespread. Its influence will linger for a long time and will be felt in all the meat markets and exchanges of the Empire.

Farmers, to save part of their cattle, have been obliged to sell or kill the least valuable of their herds. In Saxony the chairman of the combined agricultural unions sent out circular letters to the chairmen of 443 local agricultural clubs or societies. He got 143 answers. Of these 45 acknowledged the sale of from 10 to 80 per cent of their entire stock. In the district of Chemnitz 10 per cent were sold, and in Dresden 20 per cent.

As a rule, the sale of cattle was proportional to the size of the farm. Persons having distilleries of any kind on the farm and those who produced sugar-yielding roots sold only such cattle as had little or no value for agricultural purposes. The large farmers, especially those who carry fodder from year to year, sold from 10 to 15 per cent of their stock. The middle and small

*NOTE BY THE DEPARTMENT.—The United States exported to Germany during the last fiscal year 3,965,191 bushels of rye, 13,901,239 bushels of corn, and 7,635,926 bushels of wheat (Commerce and Navigation of U. S., 1892, pp. 328, 330).

farmers sold from 20 to 25 per cent, the difference depending upon each farmer's knowledge and skill in the treatment of his grain and grass fields. The very small farmer had to sell often as high as 80 per cent of his cattle to save the remaining 20 per cent. In certain districts the sale of cattle, due to last year's small crop of hay, had already begun in the early months of last winter.

In the Laubau district these sales were sometimes very large. In some districts the cattle of middle and small farmers were killed and the meat sold for the price—remarkably low here—of 6 and 7 cents per pound.

Reports from some districts show that sheep could not be sold at all, for, even at the lowest prices ever known here, in proportion to other things, there was no demand.

Inasmuch as young cattle fell first under the ax, when it was found necessary to kill, a great scarcity of breeding cattle is reported.

It is feared that, notwithstanding the great efforts now being made to prevent it, yet hay and fodder being so dear and the foreign surplus, so far as reported, so small, fully one-half of the cattle in many districts will have to be killed this fall or winter in order to save the other half.

All this can not fail to affect the meat markets for a long time to come. By-and-by, as the source of supply grows smaller, meat must be dearer. There is no good reason why American meats should not find big and ready sales in a country where meats wholesale at such prices as the following:

Kind.	Per 110 pounds.		
	First quality.	Second quality.	Third quality.
Steer beef.....	\$15.23	\$13.33	\$11.42
Veal.....	14.28	13.09	11.90
Cow beef.....	13.57	12.38	9.99
Bull beef.....	12.38	10.94	9.51
Live swine.....	14.28		

The primary cause of all this scarcity is the almost unprecedentedly long period of drought. Rain has been so long deferred that some sections, notably in Belgium, are reported to have begun rain-producing experiments, with what results I am not in a position to state. It is because of what must come that I deem it my duty to apprise our people through the Department of the disastrous effects of this year's dry weather. Not only should there be a largely increased market, with good prices, for our hay and grain, but the time is auspicious for getting a good hold once more on the European meat markets.

How best to do this is an interesting problem. Perhaps a good plan would be to have the Germans now visiting our country see our stock yards and methods of feeding, raising, and preparing beef, veal, pork, etc.

However, let the outlook for beef-selling be what it may, there is a real and pressing need for hay and fodder of all kinds.

Our grain has always been popular here. The German millers and bakers turn to our wheat fields for their supply when the yield here is small.

Germany is a good buyer, and pays in cash or its equivalent. A people who spend millions, not only upon the necessities, but also upon the luxuries, of life can not be called poor.

In ten years the consumption of beer, looked upon here by some as a necessity, increased from 86.6 liters (a liter is a trifle more than a quart) to 105.8 liters per capita of the population.

Besides beer, there is an enormous increase in the consumption of cacao, sugar, coffee, tea, and other delicacies. Millions are found for the arts, sciences, and what might well be called mental luxuries. The man who measures a people's position in the world of finance by their per capita consumption of iron will find food for thought and estimates in the fact that the increase per capita in the consumption of iron during the last ten years, was 36 kilograms (a kilogram is little more than 2 pounds).

The Empire is active, earnest, and energetic. It is reaching out into all climes and countries for the best markets in which to buy and sell. It has upwards of 40,000,000 people. The normal increase in population is far ahead of the normal increase in land products. It must buy outside, if not in Russia or Roumania, then in Austria-Hungary, England, India, Egypt, or the United States. Where shall the people of this Empire buy? Naturally where they can get the most of good goods for the least money. There is no reason why a large, if not the lion's, share of their grain, meat, and raw cotton purchases should not be made in New York or Chicago, Omaha or St. Paul, Savannah or Galveston.

J. C. MONAGHAN,

Consul.

CHEMNITZ, *August 3, 1893.*

AMERICAN TRADE IN THE ORANGE FREE STATE.

COMMERCE.

The demand for agricultural implements is encouraging, and, as a monthly steamship line is now established between South Africa and the United States, I have every reason to believe that a great portion of the trade will fall into our hands. It only rests now with the merchants in the United States to devise such ways and means as will secure to us the portion of trade that should be ours. Catalogues should be freely forwarded in lines of export goods such as agricultural implements, building material, ironmongery, crockery, earthenware, and last, but not least, in all the lines of soft goods, such as dress stuffs, calicoes, blankets, clothing, etc.

I have seen numbers of catalogues, accompanied by samples, received here from English houses, and it appears that the English do not hesitate to spend 50 per cent of their profits in that way to establish a ready sale for their goods. They go even further, sending out large consignments of rough and soft goods on the sale-or-return principle. This is about the best way of gaining their purpose. The people in the Orange Free State are untraveled and conservative, and prefer seeing the article in full shape and form before them instead of on paper.

There is a good opening for an American house at the capital of the Orange Free State (Bloemfontein) for both soft and rough goods. The business should be both a wholesale and retail one. The capital required for the purpose I estimate at from \$50,000 to \$200,000. If this could be brought about our success would be great.

It is a well-known fact that the greater quantity of American goods sold here have been introduced by European houses. This is only done, however, when they can not push their own manufactures. About three weeks ago I happened to enter a shop of a prosperous merchant whom I saw engaged with a commercial traveler of some firm in Port Elizabeth, a port in the Cape Colony. The samples were in the line of ironmongery, among which I noticed several articles of American make. Most of the other articles were, however, manufactured in England or Germany. In selecting hatchets, the merchant took a particular fancy to one which bore the American trade-mark. The traveler, however, took up one made in Germany and tried to impress upon the merchant its superiority. Yet the merchant—a Scotchman—was quite capable of detecting a good article from an inferior one and ordered 3 dozens of American make. In the course of the afternoon, meeting the traveler, I asked him, after a short conversation, why he preferred selling the German hatchets instead of the American ones. He replied: "My dear sir, if I had sold the German hatchets I would have made 100 per cent more than I have made on the others."

That a part of our farming population is greatly behind the times and that they are easily duped will appear from the following: One morning I overheard a couple of farmers discussing the value of a watch which one of them had bought from a traveling Russian Jew for the sum of \$50.40. My curiosity was aroused when I heard that it was an American watch. I immediately joined in the conversation, examined the watch, and found it to be of "Virginia make," an amalgamation of brass and copper, with the appearance of gold. Upon questioning the owner I learned that the seller had plainly told the buyer that the watch was neither made of Johannesburg gold nor Australian gold, but of "union gold," and the farmer, not knowing the difference, paid \$50 for a watch which is advertised in the American newspapers for something like \$3.50.

I have given the above incident to prove how easily most of our farmers can be duped, and I may also assert that a good many merchants take ad-

vantage of their ignorance. The commercial travelers are well aware of these facts; hence the offering of an inferior article for the same price as an honest and warranted one.

If a first-class American house were established at Bloemfontein it would secure all the trade in the Orange Free State.

For the information of those interested I must state that all goods shipped for the Orange Free State are either landed at Port Elizabeth or East London (both ports of Cape Colony) and from these ports brought on by railway, which runs right across this country.

It is anticipated that, as soon as the Delagoa Bay Railway is completed to Pretoria, the capital of the Transvaal, the trade with Germany and South Africa will greatly increase on account of the low freight for which the German Steamship Line—Hamburg via the Suez Canal to Delagoa Bay—will carry merchandise. This may be true as far as the Transvaal is concerned, but it is my firm belief that the Delagoa Bay Railway will not affect our trade in the least in the Orange Free State. American goods find a ready market here. It only remains for us to push the trade.

FINANCIAL.

It is generally believed by merchants in the United States that difficulty exists regarding money transactions between this country and the United States, and that the banking business in the Orange Free State is in its infancy. This is not the case. Banks are established in almost every town, being either branches of the National Bank of the Orange Free State or branches of the Bank of Africa. Money can be as easily transmitted from here to America, and *vice versa*, as it can be from one town in the United States to another. It may also be added that the National Bank here acts as agent for the Standard Bank in Cape Colony, of which the head office is in London. The Bank of Africa here is also a branch of the London Bank of Africa.

American merchants can not expect reliable Orange Free State houses to deposit money with banks in the United States if they have any intentions of transacting business. It is much easier for American houses to send invoice with draft for collection.

The National Bank is under the supervision of the Government, and may therefore be regarded as good as the Bank of England.

MINING.

Great excitement has prevailed here for the last week. A diamond of 971 carats, valued at £200,000 (\$1,000,000), has been found in the Yagersfontein diamond mine. The stone is $3\frac{1}{2}$ inches long, $2\frac{1}{2}$ inches broad, and $1\frac{1}{4}$ inches thick. It is supposed to be one of the largest diamonds in the world.

A new mine has been discovered about 9 miles from Bloemfontein, and a company will soon be organized to work it.

It is a pity that none of the American capitalists can be found to start an exploration company in this country. There are numbers of dormant mines, and concessions may be had on the most advantageous terms. The capital required is very small, as the exploring can be done by boring.

The English are at present doing all the speculation. Wherever a new mine is discovered English capitalists are sure to be found first on the ground. Nevertheless there is a wide field for further exploration.

AGRICULTURE.

As we are now in the middle of winter, there is little to report on agriculture. Breadstuffs are rather high in price, the quotations being: Sweet corn, from \$3 to \$4 per 200 pounds; meal (sifted), from \$5 to \$6 per 200 pounds; meal (unsifted), \$4 to \$5 per 200 pounds. Butter often brings from \$1 to \$1.64 per pound. Milk is sold at 12 cents per quart.

During my trip last month to some of the districts in the Orange Free State, I noticed great improvements among the farming population. Fountains are opened everywhere to irrigate the fertile ground. The old-fashioned agricultural implements are more or less replaced by new ones of the most improved styles. More attention is paid to the improvement of vegetables, on account of which a great quantity of American seed has been sold. I have been told by farmers who had sown American seed last year that all other seeds are disregarded, and consequently I expect a greater demand for the approaching season. What I specially noticed was the improvement in cattle, sheep, and horses. Sheep are particularly well attended to, especially since the "scab law" has been enforced; the wool, therefore, will soon prove to be of the first quality and rival that of Australia. The pastures, however, are at present dreary plains, and how the live stock can subsist on the scanty grass and shrubs is a miracle. It must be remarked that in times such as these, after the devastation caused by the locusts, our farmers generally seek pasture elsewhere for their cattle.

The rainy season has now commenced, and rain has already fallen in quantity sufficient to aid our farmers in their spring cultivating preparations. If the locusts keep away we may safely predict a prosperous year.

E. R. LANDGRAF,
Consular Agent.

BLOEMFONTEIN, *July 1, 1893.*

IMPORTANT INDUSTRIES OF ST. ETIENNE.

THE RIBBON INDUSTRY.

The most important industry of this town is perhaps that of ribbon-making, in which marvelous art and skill are displayed and in which employment is given to about 70,000 people.

The silk industry was introduced into France from Italy at the beginning of the fourteenth century, when the popes established their residence at Avignon. This town, with that of Nîmes, was for a considerable time an important center of manufacture. Toward the beginning of the fifteenth century, by reason of conflicts between the small Italian republics, Italian silk-weavers established themselves at Lyons. These emigrants were not well received by the ribbon-weavers in that city, and finally were obliged to remove to Tours, where they prospered, and by their means that town became famous for its silk industry. Later on more Italians left their country and settled in Lyons, and, being real artists in their trade, the population, perceiving the advantages of possessing such a stimulant to their own silk manufactories, treated them with a good deal of consideration. It was from this period that the silk industry became definitely established at Lyons. Later it spread to the neighboring localities, and in the course of a short time St. Etienne became, in its turn, the chief center of ribbon manufacture, and it is here at the present day firmly established.

St. Etienne was, however, more prosperous fifty years ago than it is today. In 1833 the United States was the chief importer from this town; it alone took a fourth of all that was manufactured, another fourth was used for home consumption, and the remainder was exported to England, Germany, Russia, etc. Consequently three-fourths of the production was exported, for at this period St. Etienne had the monopoly of new articles of ribbon manufacture of any real importance. Fancy ribbons were at that time in great demand, and St. Etienne alone could furnish them. Twenty years afterwards Basle, Crefeld, and Moscow became serious rivals, and the prestige of St. Etienne was much affected; but the great blow came from the United States when, after the war of secession, numerous ribbon manufactories were established at Paterson, N. J., which speedily developed, and at the present time almost meet the demands of the American market.

However, in spite of foreign competition, St. Etienne's ribbon production is at present four times greater than when it held undisputed possession of the markets of the world; but the manufacturers are obliged to content themselves with much smaller profits. The total production for the year 1892 exceeded 92,000,000 francs.

The number of looms in St. Etienne and vicinity is 22,000, of which 18,000 belong to the weavers themselves and are worked in their own homes, the remainder being owned by the large manufacturers. The average value of a loom is 1,500 francs, but there are some which cost from 3,000 to 5,000 francs; consequently the total value of the weaving plant exceeds 39,000,000 francs, of which two-thirds represent the savings and investments of the weavers. The number of persons engaged in ribbon manufacture (men and women) is put down at 70,000, the men for the most part working in their own homes, while a large portion of the young girls are employed in the manufactories or in sale and packing rooms connected with them.

THE WEAVERS.

The independent weaver generally possesses two or three looms; one is worked by himself, the other by his wife, and the third by a son or daughter or a journeyman. The weaver's house contrasts strongly with that of the miner or gunsmith. It is generally scrupulously clean and might be considered decently furnished, that is to say, the furniture looks bright and clean and is of good quality, although there is of necessity but little of it, as the space is very limited. The apartments consist, in most cases, of two front rooms, serving for kitchen and bedroom (in many instances there is only one room to serve for both), and a large room at the back for the looms, furnished with two or three large windows (a window for each loom). The weaver, from the fact that he works in his own house and leads a domestic life, is in general of a much higher moral and intellectual standing than other artisans here. He is sober and industrious, having but one object in view—the well-being of his family. Although he suffers a great deal at times from enforced idleness by reason of lack of work, and though he often has to be content with small earnings, he never murmurs, but does what he can and hopes for better times. It is not to be wondered at, then, if he is able to economize a little when work is abundant, but it too often happens that the sum laid by in the favorable season has to be drawn upon before the year expires to provide for the necessities of life during periods of dullness.

What are the daily earnings of a weaver in St. Etienne? The question is difficult to answer, because his occupation is dependent upon fashion, which, as everyone knows, is periodically changing. At one time fancy ribbons are in great demand, at another plain ones. So black, colored, wide, and narrow ribbons are at times preferred. The amount he can earn depends, also, on the quality of silk furnished him. If it is of bad quality, it will often break, so that his time is wasted in tying and arranging the threads; consequently he will not be able to do the average day's work, which is $4\frac{1}{2}$ meters. Again, the kind of ribbon he makes affects his earnings; on narrow ribbon he will earn less than on broad, and silk ribbon is less lucrative than velvet ribbon. In any case he is paid on the average at the rate of 1.50 francs for 15 meters on a loom making twelve pieces, and, as he can, under favorable circumstances, do 5 meters per day, his earnings will amount to 6 francs for the twelve pieces; and, if he has two looms at work on the same kind of material, which is rarely the case, he will earn 12 francs per day. But account must be taken of the fifty-two Sundays in the year, during which he does not touch his loom, and of eight days every six weeks spent in putting up a new order received, during which he earns nothing; so that his earnings all the year round, if work be regularly given, will not exceed 8.50 francs per day, and this amount is considered a fair average. If he is obliged to call in help from outside, his earnings will be still further reduced, as he will have to divide the profits of one loom with the workman. If the weaver makes velvet ribbon, he earns about 8 francs

per day on each loom at the rate of 3 francs per thousand threads; but velvet is not always in fashion, and the demand for it seldom lasts for more than one season. So it is seen that the average yearly earnings of a weaver in St. Etienne possessing two looms and working two hundred and fifty-five days in the year do not exceed in any case 3,000 francs, or \$600, and in very many instances they do not exceed \$500.

The following table shows the actual cost of living for a weaver's family, composed of man and wife and three children.

Expenditure.	Per day.	Per year.
	<i>Francs.</i>	<i>Francs.</i>
Rent.....		250. 00
Food :		
Wine	1. 00	365. 00
Bread .....	. 75	273. 75
Meat	1. 25	456. 50
Coffee .....	. 10	36. 50
Vegetables .....	. 15	54. 75
Coal .....	. 30	109. 50
Light .....	. 80	73. 00
Clothes		250. 00
Taxes		12. 50
Medical attendance and medicines		50. 00
Repairs to looms		200. 00
Other expenses		300. 00
Total		2,430. 75

It results, therefore, that if the year be favorable a saving of 570 francs can be made ; but, as I have already said, it too often happens that the man is idle for weeks waiting for orders, and thus the saving, which is always carried to the savings bank, is drawn upon, and before the year is out it may have been all used for the necessities of life.

Many weavers have three looms at work, but, as one at least must be worked by a journeyman, the owner gets only half the profits of that loom, and, besides, he has to pay a higher rent and a higher tax.

In conclusion, it may be said that at St. Etienne a weaver can live and rear his family, but can do no more—that is to say, he can not to-day lay up money by his trade. The average number of children in a weaver's family is three.

BOTTLE-MAKERS.

At St. Etienne and in its vicinity are several bottle factories. In the town itself are four bottle works, representing sixty crucibles and giving employment to about 200 men in the aggregate. These men are divided into three classes—the opener, the blower, and the assistant. The two former are paid on an average 7 francs per day, or 200 francs per month, while the assistant gets 120 francs. The opener and the blower are obliged to turn out a certain amount of work in the day and are paid at the rate of 3.50 francs per hundred bottles. They have to contribute 30 francs each to the monthly pay of the assistant, the master making up the difference.

Bottle-makers in general, in spite of the good wages they earn, are far from being a thrifty class. They spend their money inconsiderately and largely for drink. Their homes are not so comfortable as those of the weavers and wear an air of untidiness. The men's wives are careless and devoid of good management, so that it frequently happens that all the money is spent before the end of the month, and borrowing has to be resorted to until the next pay comes in.

It may thus be inferred that glass-workers as a rule have not much credit with the public, and shopkeepers do not trust them very far.

MINES AND MINERS.

The immediate vicinity of St. Etienne is studded with tall chimneys, which suggest the existence of coal mines, and this idea is confirmed by the black aspect of the country for miles around. These mines are worked by private companies and are very profitable, as a ready sale is found for the coal, which is of good quality.

The mining population, not only of St. Etienne, but of the whole region which extends for miles around (some 20 miles either way), called the "bassin" of the Loire, is estimated at 20,000, and of this number about three-fourths belong to St. Etienne itself, that is to say, they work in the mines which form a circle around the town. These men can not, in most instances, be regarded as original citizens of the mining center; they are generally peasants or the sons of peasants from the neighboring departments come to work in the mines, enticed by what they consider good wages. Numerous are the examples of men quitting in the fall their farms far up in the country, leaving the little that has to be done to their wives or parents, and coming to the mines until the spring, when they return with some money saved from their wages. Others rent their farms and come to do mining work for several years, marry, and have children. When these are reared and the miner can retire with a pension, they return to their old homes.

In general, the mining population is demoralized and unintelligent, and those persons who have no incentive to practice economy spend their earnings in drink and live in squalor. However, the miner has a hard life. He leaves his home at 5 in the morning, summer and winter, and returns at 5 in the afternoon, or *vice versa* if on night work. Some do only night work, but the greater number change their hours every fifteen days. The hours in the mine are from eleven to twelve, with a break of one hour for dinner. It is needless to say what ill effects this long sojourn in the foul air of the mines produces on the constitutions of the men; they become emaciated, and the almost incurable malady known as miner's anæmia is not rare among them.

As to the classification of labor and the scale of wages, the subjoined table will give a sufficient idea:

	Francs.
Pickers.....	5.00 to 6.00
Timber-liners.....	4.00 to 4.50
Rollers.....	3.00 to 3.75
Embankers.....	3.50

These classes are engaged in taskwork, and their hours of labor average eleven or twelve hours a day. It is well to add that, besides their wages, the miners are allowed a certain amount of coal every month.

The picker is obliged to furnish seven coal tubs a day, each weighing half a ton. The timber-liner must make two "frames" a day, and the roller has to bring to the shaft of the pit from ten to twenty wagons of coal, according to the distance.

Miners, as a rule, drink a good deal of wine in the pit, especially when they work in the hot galleries. Water is sent freely down to them, but it quickly acquires a bad taste from the absorption of the gases and so becomes unpalatable.

The miner usually spends his wages freely, although he nourishes himself very poorly. His food consists of a soup in the morning composed of cabbages, potatoes, onions, and bread mixed up together. This soup, it may be said, comprises the breakfast of all the working classes of St. Etienne. At dinner he has a piece of meat (frequently pork), a plate of vegetables, and a pint of wine. The supper consists of the "leavings" of dinner and a glass or two of wine. On Sundays the food is a little better and more varied.

The wages are paid on the 10th and 25th of every month, and it is not infrequent to find them all gone in riotous living a week later. The companies retain 2 per cent of the wages, in view of sickness and the pension, to which the miner has a right after twenty-five years' toil in the same mine and when he has reached the age of 50. The pension is equal to one-half of the wages.

In case of sickness the miner receives for the first three months 30 cents a day and for the next three 20 cents, at the end of which time the company ceases to provide for the man. Besides having the allowance just indicated, the miner has the attendance of a doctor and whatever medicines he may require free of all cost. In case of accident, he has still greater privileges; the daily allowance is higher (40 cents) and 5 cents a day for each child he may have under 16 years of age. If the accident renders the man permanently incapable of working again in the mines, he receives either a pension for life or the company compounds with him for a certain sum. Where the accident is fatal, the widow is paid 1,200 francs immediately and a pension as long as she remains unmarried; if there be any children, each receives 75 centimes per day up to the age of 16.

Perhaps all these considerations account to a certain extent for the fact that the miners have more children in general than is the case with workmen in other industries. In any case the average is put down at 6, a large number, considering that the average for the whole of France is 2.9. As to economical principles, the miner is generally at fault, except where he has the hope of returning to the country to cultivate his farm.

HARDWARE.

One of the oldest industries of St. Etienne is that of the manufacture of hardware. Toward the close of the last century St. Etienne was the most important center in France for the production of all kinds of ironmongery. In 1779 an enterprising manufacturer installed a forge worked by water power in a suburb of the city and commenced to make spoons and forks, which he sold at a low price. A year subsequently his factory was destroyed by a band of jealous workmen, and the industry was transferred to another part of France. Several years afterwards the trade developed, and in 1833 there could be counted about sixty manufactories in the town and its vicinity, employing 6,000 men and producing articles worth more than 4,500,000 francs. At that time cutlery was one of the staple products, but it has been long since transferred to the town of Theirs, in the neighboring department. In 1833 there were turned out weekly 12,000 dozen knives of a good but not expensive quality. Even to-day ironmongery occupies an important position among the industries of the Loire. If the manufacture of certain articles has ceased, that of others has taken their place; so that the number of forges for the manufacture of files, rasps, bolts, shovels, spades, scythes, reaping hooks, hammers, anvils, ironwork for buildings, wire, etc., exceed 120, employing 5,000 men and producing 15,000,000 francs annually.

The class of workmen employed in this industry may be placed on the same level with the miners, for they possess many of the same characteristics. They are in general improvident, although hard working. Intemperance is one of their failings, and their notions of morality are very superficial. Their homes are poor and neglected, and their numerous children are stunted and sickly on account of the bad habits of the parents. Of course, there are many exceptions to the rule.

METALLURGY.

The iron industry is of recent date in the department of the Loire, and, in fact, it was not well known in France at the beginning of the century, when the production of steel was so much below the need of consumption that during the wars of the First Empire the metal was bought at the rate of 6 francs per pound, while in England it cost only 65 centimes. To-day steel can be had in France for 50 centimes per pound. The French Government took the matter up seriously and applied itself to remedy this abnormal situation. Propositions were made to different foreign manufacturers and among others to James Jackson, an ironmaster of Lancashire, England, who, accepting the offer made to him by the French minister of commerce, came to St. Etienne in 1820 and started steel works in the vicinity. In a short time steel of a very good quality was manufactured, and later on the factory assumed large proportions under the direction of Jackson's two sons; so that it may be said that the great iron industries of the department of the Loire owe their origin to the intelligence and persevering efforts of the Jackson family.

According to the latest statistics, the production of the foundries, of which the list is given below, exceeds 65,000,000 francs and employ about 16,000 men. Among the principal objects manufactured in these foundries may be mentioned steel plates for war vessels, steel rails, engine and wagon wheels, pieces of cannon, projectiles, etc.

The workmen in this industry do not differ much from their *confrères* in other parts of the world. Earning, for the most part, what is considered in France good wages, they are attentive to their work and are seldom dismissed for insubordination. As a rule, they live better than the mining class and seem to care more for domestic life. They marry young and endeavor to rear their families in as much comfort as their means will allow. Not possessing, in general, dissipated habits, they are able to exercise a little economy, and their wives are an efficient help to them in that respect. The wages range from 1.75 (boys) to 12 francs (puddlers) per day. The day's work is from 6 to 6, with a break of two hours for breakfast and dinner. One franc and a half is retained from their wages each month for the provident fund. They have two doctors—one for maladies, the other for accidents—free of charge, and in many instances their families also receive medical care gratis.

Under these circumstances, it is not rare to meet a man who, having worked steadily for a number of years, has arrived at a comparatively good position. However, it is a fact that a great many of those who work in foundries die from immoderate drinking. The nature of the work obliges the men, especially the puddlers, to absorb a considerable quantity of wine—from two to three quarts—during the day, and this habit provokes a series of disorders—dyspepsia, gastritis, liver diseases, etc.—which materially shorten their lives.

List of foundries in the department of the Loire.

Name of foundry.	Place.	Production in 1890.	Number of workmen.
		<i>Tons.</i>	
Forges et Aciéries de la Marine.....	St. Chamond.....	36,596	2,950
Fonderies de Givors.....	Givors.....	20,000	350
Hauts-Fourneaux de Chasse.....	Chasse.....	24,000	
Forges et Aciéries de St. Etienne.....	St. Etienne.....	21,697	1,475
Aciéries de Firminy.....	Firminy.....	66,152	2,048
Fonderies et Forges de l'Horme.....	l'Horme.....	10,650	450
Aciéries d'Unieux (Holtzer & Co).....	Unieux.....	5,437	1,000
Forges de la Loire.....	Rive de Gier.....	7,625	800
Forges et Aciéries du Chambon.....	Chambon.....	864	450
Forges de Couzon Arbel frères.....	Couzon.....	3,994	200
Forges de Biétrix.....	St. Etienne.....	1,400	400
Forges B. Brunon.....	Rive de Gier.....	1,000	200
Forges Clair frères.....	St. Etienne.....	360	100

GUN-MAKING.

From time immemorial St. Etienne was famed for its manufacture of arms. Many centuries ago arbalests, halberds, and swords were manufactured in the town, and as soon as firearms were invented St. Etienne began to make

them, as far back as the middle of the fourteenth century, when the English at the battle of Crecy astonished the French army by the hitherto unknown noise of their artillery.

In 1516 François I sent to St. Etienne Virgile, an engineer, to manufacture arquebuses and muskets. Up to 1764 the State had a royal manufactory of arms in the town, but nevertheless private manufacturers were frequently called upon to aid in the armament of the nation. It was thus that in 1833 the number of rifles produced by the State manufactory was only 66,000, while those furnished by private industry at St. Etienne exceeded 80,000. Besides army rifles, St. Etienne was able in the same year to manufacture 23,000 shotguns and pistols. Since that period restrictive laws have been passed from time to time, which have proved a great obstacle to the private manufacturers. The fabrication, sale, and detention of rifles, pistols, and, above all, revolvers, were forbidden more than once, and the manufacturers were prohibited from buying and transforming any arms abandoned or rejected by the State; but these arms were quickly bought up by the gunsmiths of Liege, and thus the trade of that Belgian town became greatly developed. Thanks to the freedom of manufacture which always existed, not only in Liege, but in Birmingham, these towns became in a short time much more important than St. Etienne. Thus, while private industry in St. Etienne produced only 40,000 arms in 1889, Liege turned out over 1,500,000.

The following table shows the comparison between the years 1833 and 1889:

Year.	Fowling pieces.	Pistols.	Rifles.	Revolvers.
1833.....	21,774	1,003	81,000	.....
1889.....	35,718	1,030	.....	3,091

It can thus be seen that army rifles are no longer supplied by private manufacturers, and consequently the number of workmen in this industry is much diminished.

The table here annexed gives the amount of arms manufactured at St. Etienne each year since 1880:

Year.	Fowling pieces.	Pistols.	Army rifles.	Revolvers.	Total.
1880.....	51,608	9,209	.....	1,505	62,322
1881.....	41,917	9,037	1	816	51,771
1882.....	49,008	7,075	6	2,059	56,148
1883.....	49,038	3,543	9	1,418	54,008
1884.....	62,525	5,044	4	2,125	69,398
1885.....	65,167	4,126	12	3,737	73,142
1886.....	60,526	5,230	.....	4,602	70,358
1887.....	48,405	2,243	.....	3,800	54,453
1888.....	43,063	1,717	.....	4,280	49,060
1889.....	35,718	1,030	.....	3,091	39,839
1890.....	38,268	438	.....	2,707	41,413

THE STATE MANUFACTORY.

In France, there exist three Government manufactories of arms—those of St. Etienne, Châtellault, and Tulle. The first is by far the most important. It was commenced in 1767, but did not begin to rival private industry before 1830, when a large call was made on it at that agitated period of French history. However, it was not until after the war of 1870 that the establishment began to assume the proportions it possesses at present. In 1879 the different State manufactories were called upon to renew or transform the armament of the nation, and that of St. Etienne delivered nearly 400,000 rifles in one year. In 1886 the Government adopted the Lebel gun, which obliged the authorities at St. Etienne to enlarge considerably the manufacture of arms. With a staff of 10,000 workmen, 1,600 rifles were manufactured daily, amounting to 480,000 arms per year. To-day the nation is armed with this gun, which is considered perfect. When the order was completed a large number of men were dismissed, so that at present not more than 6,000 workmen are employed.

THE GUN-MAKERS.

The gun-makers at St. Etienne number about 10,000, comprising those employed by the State. As a rule, they are a hard-working class, earning from 3 to 6 francs per day. They live fairly well; but, save those who work for the State, they do not practice much economy. Their chief failing is drink; not that they are in general habitual drunkards, but they consume a considerable quantity of alcohol. A gunsmith will commence the day with a glass of *eau de vie*, which is always of the worst description, and will repeat that dose two or three times during the day, besides the usual quart of wine at meals. Their homes are generally of a poor description. Those who work in the State manufactory, however, are submitted to such a rigid and salutary discipline that they are obliged, under pain of dismissal, to abstain from dissipation, and their homes are of a better character. In the private industry the wages are at present very low, as the supply of labor is much greater than the demand, and consequently the workmen can do hardly more than live.

FRANCIS B. LOOMIS,

*Consul.*ST. ETIENNE, *July 18, 1893.*

COMMERCE OF PERSIA IN 1891 AND 1892.

The United States have no consular agency at Enzeli, the principal Persian landing place on the Caspian Sea, or at Resht, which is the headquarters of that customs district. I applied to the British legation at Teheran for such information as it possessed on this subject, the British Government being represented by a consul at Resht. Mr. Francis E. Crow, the British

vice-consul at Teheran, very promptly and kindly placed at my disposal all the trade information which the legation possessed. The only part of this information which is pertinent is the report of Mr. H. L. Churchill, British consul at Resht, for the year 1891. This report was made under date of March 3, 1893.

I have had to report to the Department so often the lack of all official or other statistics in Persia, thus making the study of every question involving quantities or values a matter of original research, that, in this case—although entirely familiar with the fact myself—I prefer to quote the opening paragraph of Mr. Churchill's report, in order to show the difficulties which attend every attempt to obtain statistical information in Persia. Mr. Churchill says:

I regret that, owing to my absence from Ghilan during the greater part of last year, I was unable to collect materials for this report earlier, and also for the absence of detailed statistics of the imports and exports, which I have found it impossible to procure with any degree of accuracy from the customs authorities. The reluctance on the part of these officials to impart exact statistics is explained by two facts: the one being that the customs are farmed, and the farmer, who pays the Persian Government far less than he actually levies in dues, naturally does not wish the actual figures published, which would show the world at large, and the Shah in particular, the amount of his gains; the other reason is that the farmer of the customs himself receives no regular returns from his subordinates, who generally manage to make considerable perquisites at the ports where they levy customs dues.

Mr. Churchill, in his report for 1891, in place of giving any figures for Resht or Enzeli, presents what he describes as a "return of the principal imports into Persia from Baku" and a "return of the principal exports from Persia to Baku." Baku is the principal Russian port on the Caspian Sea, whence goods are imported into Persia, and where goods are first received on their departure from Persia for some parts of Russia or other parts of the world. I judge that the figures thus given by Mr. Churchill were compiled in Baku. I append these tables:

Return of the principal imports into Persia from Baku.

Articles.	Value.	Articles.	Value.
Flour.....	£1, 199	Lime.....	£119
Sugar:		Glassware.....	4,930
Refined, in loaves.....	479,938	Naphtha, raw.....	2,228
Moist.....	270,563	Petroleum, refined.....	21,312
Cigarettes.....	172	Residue of naphtha.....	695
Vodki.....	170	Chemicals.....	1,318
Preserves (tinned, etc.).....	1,974	Iron manufactured articles.....	4,633
Iron:		Candles.....	4,498
In pieces.....	3,546	Total.....	806,327
Different kinds.....	9,032		

Return of the principal exports from Persia to Baku and thence to other parts of Russia and Europe.

Articles.	Value.	Articles.	Value.
Rice.....	£192, 104	Wood for rough carpentering.....	£721
Dried fruits.....	36, 050	Seeds for sowing purposes.....	1, 905
Walnuts.....	1, 313	Cotton.....	13, 446
Almonds and pistachio nuts.....	12, 124	Flax and hemp.....	1, 575
Honey.....	1, 426	Charcoal.....	6, 208
Dried and fresh fish.....	12, 207	Gums and resins.....	3, 315
Tumbekee.....	1, 850	Dyes or dyed stuffs.....	3, 336
Various kinds of timber.....	2, 078	Total.....	294, 053
Valuable wood for cabinet-makers, veneering, etc.....	4, 395		

Mr. Churchill, in these tables, also gives the quantity of rice exported from Persia to Baku, etc., as 2,123,378 poods (1 pood=36 pounds), and of dried fruits 202,185 poods. His figures do not cover the large Persian trade movement which goes up the Volga River.

WATSON R. SPERRY,

Minister Resident and Consul-General.

TEHERAN, July 1, 1893.

I am of opinion that a small, steady trade can be opened up between this country and the United States, but I regret to say that my efforts in this direction have hitherto proved unsuccessful.

AMERICAN INDIFFERENCE.

It appears to me that most of the American manufacturers are either doing a good business at home and nearer home or that their knowledge of foreign trade has not sufficiently developed, as they seem indifferent to its requirements. For instance, there is a large outlet in Persia for fancy prints and chintzes, but I am told by many American manufacturers that they can supply only such goods as they produce for home use, as it would not suit them to make stuffs after the designs liked in Persia. Again, the manufacturers are apparently under the impression that it is Persia which is seeking after American goods, as they not only refuse to satisfy the Persian tastes and fancies, but also stipulate for cash payments in advance, instead of trying to introduce their own goods into Persia. The English and continental manufacturers are meanwhile assiduously studying the Persian wants and supplying this country with goods fully up to the required standard in elegance, superiority, and cheapness.

It is true that in point of location the United States is at a disadvantage with certain European countries in supplying goods to Persia, yet it appears to me that the consequent difficulties could be overcome if only the American merchants showed a keener interest in their commercial relations with Persia.

A good beginning was made by Messrs. Arnold Cheney & Co. in introducing American petroleum and sheetings to these parts, and I was in hopes that the trade would gradually develop; but with the withdrawal of that enterprising firm from Bussorah no further direct importations have since taken place, and I must only repeat that the United States must take the initiative. Persia will not make any advances.

AMERICAN AGRICULTURAL IMPLEMENTS.

Agriculture in Persia continues in its primitive and neglected condition. No steps are taken for its improvement and no encouragement given to its extension. There is no doubt that the superior American implements of agriculture could be slowly and advantageously introduced here.

ABOLITION OF THE TOBACCO CORPORATION.

The position of the European merchant has been much shaken since the abolition of the tobacco corporation, and, if the present condition of affairs should continue, it would be wise on the part of the foreigners to bring their operations within the smallest scope possible.

OPENING OF THE KAROUN.

The opening of the Karoun, if politically a grand achievement, has not yet shown any practical results commercially. The jealousies continue, and commerce has scarcely made any headway in that quarter, and I am afraid that it will remain so for some time. Perhaps it is not a secret to say that it was at one time contemplated to give the Karoun concessions to the United States and if this had been done not only would international and local jealousies have disappeared, but I feel convinced that with American enterprise and capital things would have been quite different to what they are now, much to the advantage of all concerned.

I have recently visited the Karoun, extending my journey to Shuster, and I am convinced that under improved conditions, if the present extensive unutilized but fertile lands along the banks of the river and the interior were brought under the plow, a matter quite feasible and requiring very little capital, the production of cereals would assume most gigantic proportions, to say nothing of the opening up of new sources of trade in the various branches.

TRADE IN 1892.

In reviewing the trade of Persia (southern) for the year 1892 I have to observe that it does not compare favorably with that of the preceding year in volume and value, but I believe the results have been on the whole satisfactory. In 1892 there were fewer failures recorded than in the previous year. The trade of southern Persia was materially benefited by the ravages of the cholera epidemic in the north, which considerably paralyzed and disorganized trade in that part of the country.

Grain.—The entire failure of the grain crops in 1892 exercised a baneful influence on the trade of this province, and a good deal of misery was visible

among the poorer classes, some thousands of whom emigrated to Bussorah, where they found abundant food and lucrative labor in the date groves.

Wool.—The Persian wool trade is steadily increasing with Europe, and I understand that a good deal of Persian wool is reshipped to the United States from Marseilles and Liverpool. I have had various inquiries from the United States respecting this article, but nothing practical has as yet resulted.

Petroleum.—Now that no American petroleum is imported here, the wants of these regions are well supplied by direct shipments from Batoum. The Russian Bank has appointed an agency here, and the Imperial Ottoman Bank has also nominated correspondents in Bushire and the various important towns throughout the country.

Sugar.—The contest between Russian and French loaf sugar still continues, but the French is decidedly gaining ground, as it is not only being imported in larger quantities, but it has also succeeded in driving the other out of the Ispahan market, which only a short time ago was wholly supplied by Russian sorts. French sugar has also made headway at Teheran and further north, to the detriment of its rival. A large quantity of crystallized sugar is also imported from Mauritius. I am of opinion that American granulated sugar can be introduced here.

Approximate annual quantity and value of articles of export from Bushire.

Articles.	Quantity.	Value.
Animals, horses.....head...	259	£2,943
Cattle.....do.....	3,500	476
Cotton :		
Raw.....cwts...	45,653	60,421
Goods.....packages...	120	2,023
Dates.....cwts...	19,256	4,507
Drugs and medicines.....do.....	1,585	2,790
Dyeing and coloring material.....do.....	1,436	963
Fruits and vegetables.....do.....	17,523	14,223
Grain and pulse.....do.....	183,817	51,547
Gum.....do.....	11,195	5,948
Hides and skins.....packages...	760	3,850
Metal (copper).....cwts...	1,020	1,322
Opium.....chests...	2,793	190,022
Pearls.....		1,086
Perfumery.....cases...	9,879	54,045
Do.....carboys...	11,035	
Provisions and oilmen's stores.....packages...	4,695	6,129
Seeds.....cwts...	7,615	3,288
Silk, raw.....do.....	156	6,089
Tobacco.....do.....	28,295	35,121
Wool.....do.....	6,644	9,175
Woolen goods (carpets).....packages...	510	18,008
Other articles.....		12,003
Total.....		485,979
Specie.....		29,579
Grand total.....		515,558
		\$2,508,705

Approximate annual quantity and value of articles imported into Bushire.

Articles.	Quantity.	Value.
Arms and ammunition.....packages...	286	£3,052
Candles.....cwts...	1,363	3,538
Coffee.....do.....	439	1,688
Cotton goods.....packages...	13,052	369,452
Thread and twist.....do.....	395	7,486
Drugs and medicines.....do.....	2,761	6,935
Dyeing and coloring materials.....do.....	398	543
Fuel.....cwts...	34,398	1,584
Glass and glassware.....packages...	2,779	7,710
Gold lace and gold thread.....do.....	42	2,300
Grain and pulse.....cwts...	4,796	1,606
Hardware and cutlery.....packages...	575	5,614
Indigo.....cwts...	3,045	38,001
Jute manufactures.....packages...	1,109	4,146
Liquors, wines, and spirits.....do.....	1,864	2,235
Metals.....cwts...	29,926	52,014
Manufactures.....packages...	463	1,642
Oil.....cwts...	7,127	4,792
Porcelain and china ware.....packages...	1,408	9,365
Provisions and oilmen's stores.....do.....	5,239	3,238
Silk manufactures.....do.....	52	4,239
Spices.....cwts...	5,594	8,303
Stationery.....packages...	136	1,393
Sugar :		
Loaf.....cwts...	20,818	22,701
Soft.....do.....	38,857	33,060
Tea.....do.....	1,269	20,044
Timber and wood.....		2,790
Woolen goods.....packages...	263	210,062
Other articles.....		19,992
Total.....		850,099
Specie.....		21,986
Grand total.....		872,085
		\$4,243,565

T. J. MALCOLM,*
Consular Agent.

BUSHIRE, *May 27, 1893.*

INDUSTRIAL CONDITION OF MEXICO.

CROPS.

Though the year has been hardly one of drought, like the five preceding years, it has been so practically in the production of crops. The rain of last July came too late to secure the first crop, and, not being followed up by more, contributed nothing toward the second crop. Early in February of this year we had abundant rains all over this portion of Mexico for two weeks, but that was all we had until June. It was followed by two months

*The minister, in transmitting this report, says that it was sent to him by Mr. A. J. Malcolm, a brother of the consular agent, who was then in Europe under the treatment of an oculist, but his belief is that it was substantially prepared by the agent.

of scorching sun and high winds, so that practically the entire first crop has been destroyed. There was planted a larger acreage of corn than usual and some cotton. Extensive plans were made for the planting of Sea Island cotton, but the seed, which was imported, came too late, and, as the rain did not come, the seed is yet above ground.

EXPORTS.

The annual return of exports from Matamoros shows no material falling off in trade. For the year ended June 30, 1891, the exports were \$189,308.54 (in Mexican coin), of which \$33,236.70 was for live stock, an item that has scarcely appeared since; in 1892 the exports were \$185,190.22, and for 1893, \$147,143.37 (in United States currency). Allowing for the rate of exchange, it will be seen that trade has sustained itself remarkably well. It is very clear now, I think, that it will never descend below this point. During these years of drought and unproductiveness here the only articles of export have been bones, hair, hides, skins, etc.—in some measure the result of the drought.

UNITED STATES TARIFF.

The continued depreciation of silver is felt very keenly. When that is considered, and the absolute annihilation of the stock industry, which is the only business of a large part of Tamaulipas, by the United States tariff law of 1890, the deplorable condition of this people may be imagined.

RAILROADS AND IRRIGATION.

Railroad-building and irrigation are about where they were one year ago. The Chatfield Irrigation Company has been organized in Brownsville and has made some progress, I believe, in securing subscriptions to stock. Surveys and estimates have been made for irrigation from the San Juan River about Camargo. The scheme is entirely feasible and economical. All that is needed is capital. We have been encouraged during the past few weeks by visits from the officials of the Mexican National road, who propose to procure the construction of a road from San Miguel to Nuevo Laredo, provided enough assistance is derived from the country tributary. This scheme contemplates reviving the importance of Brazos de Santiago as a harbor. Reports come to us that a concession has been granted for a road from Matamoros to Linares to substantially the same parties that held the former concession. Too little is known in respect to either project to report upon them. They serve at present to stimulate hope, and perhaps that is all they will accomplish—at least until money conditions are more favorable.

OBSTACLES TO TRADE.

In this city many women and families have been entirely supported by the manufacture of *perfilados*, a kind of delicate, drawn work in linen. The most that any woman who gives her entire time to it can earn is \$1 per week, and yet it is all that many people have to support themselves and

their families. The American tariff is 60 per cent. The work is so light and easily smuggled that much of it escapes duty, although the customs inspectors are vigilant, and often women whose daily bread is in the \$5 or \$6 of painfully wrought work are seized and their work confiscated. It is law, and the officials are right; but the law is wrong in its application to these people. It protects no industry in the United States, for no American woman can do the work so well or support herself from it when it is done. It is not generally done throughout Mexico, but mainly here.

It has long been my belief that our trade with Mexico would increase much more rapidly if all tariffs were laid aside, since accessibility gives us the trade of Mexico, and all that we need to increase it is to increase Mexico's purchasing power. Every dollar that goes out of the United States for Mexican goods will come back with interest. I sincerely hope that when the present law is revised the special form of linen embroidery known as *perfilado*, or Mexican drawn work, will be placed upon the free list. There will be absolutely no loss of revenue, but a gain in the business of this frontier and charity to a poor and friendly people.

The Rio Grande is likely to become a source of some irritation and ill feeling. Its disposition to change land from one bank to the other remains, and, in addition, the matter of irrigation, which is coming rapidly to the front, is likely to entail trouble.

JOHN B. RICHARDSON,
Consul.

MATAMOROS, *July 15, 1893.*

ST. CHRISTOPHER.*

The island of St. Christopher—discovered by Columbus and given his Christian name—at first belonged to Spain, afterwards to France and Great Britain jointly, and later on to Great Britain alone, whose dependency it still remains.

The island proper is nearly 25 miles long and 5 miles wide. It is about 11 miles wide in the center, but narrows to northwest and southeast. The inhabitants are mostly negroes and their descendants. There are few pure-blooded white people on the island; in fact, nine-tenths of the so-called whites are mixed with the negro race. There are a few families of the pure Caribbean and white races mixed; but, unless one's attention is specially called to the hair of these creoles, one would mistake them for a mixture of the negro race. The population is now estimated at 31,000.

The legislature is composed of members appointed by the governor. No elections are held, because the people as a mass are not sufficiently intelli-

* NOTE BY THE DEPARTMENT.—This is the only general account concerning this island ever printed in the CONSULAR REPORTS. In No. 86 appeared a report of eight lines upon the sugar trade of the island, in No. 144 the consul who contributes the present report gave an account of the use of fertilizers in St. Christopher, and in No. 150 an account of the use of the telephone.

gent to rule themselves, notwithstanding they were emancipated about fifty years ago.

From the most trustworthy information I can obtain, this island has more leprosy and syphilitic diseases to the number of square miles than any other territory in the world. The cause is ascribed to the fact that for the past one hundred years diseased people from all parts of Europe and the East have sought this island for health, and, dying here, have left their children constitutionally diseased. Moreover, until quite recently the common women of the island were, as a rule, prostitutes, who spread their diseases throughout the island. In the last eighteen months there evidently has been a change for the better in morals. The old inhabitants, indeed, inform me that this reformation began some twenty or thirty years ago. They seem to think that the time is not far distant when virtuous men and women will be quite common on the island, and that there will be an end of the indecency and profanity of women on the streets, which now exists.

The rainy season of the year in St. Christopher begins soon after the 21st of June and continues for three months. During this time it rains almost every day; but there is an occasional year when the rain is quite moderate during the entire summer season.

The water supply is good, being pure spring water from the summit of the mountains in the center of the island, conducted by pipes throughout the entire island.

All tropical fruits and vegetables do well on the island. We have an abundance of bananas, soursops, mangoes, limes, tamarinds, figs, grapes, turnips, Irish and sweet potatoes (which grow all the year), and cocoanuts. But the crop of this island is sugar cane. The whole island is one sugar-cane plantation, and no other crop is considered. The actual value of the sugar-cane crop on this little island is reasonably estimated at \$2,000,000. From \$1,000,000 to \$1,500,000 worth is supposed to be shipped to the United States each year, together with quite a quantity of hides, limes, lime juice, tamarinds, ginger, etc.

If our people could come to this island in winter and have good quarters they could not find a more healthful place under the sun, save, perhaps, the island of Nevis (near by), which I regard, on account of its warm sulphur water and baths, the best winter resort in the world. Unfortunately, St. Christopher has not a well-situated and comfortable boarding house. Nature has done much for this island, but man's work largely remains to be done.

The island has one man who is a perfect prodigy of financial success. He came here a barefooted Portuguese boy 16 years old, working for a shilling a day, and now, at 51 years of age, he owns real estate on the island worth \$1,000,000. He has already shipped to New York \$125,000 worth of sugar, manufactured on his estates, since the 1st of January last. This man is Joaquín Farara, who can neither read nor write, but has a head full of brains and is strictly honest. There is another, a native, who is one of

the best of business men. This is Samuel Abbott, of the firm of Wade & Abbott, which controls and ships more sugar to the United States than any other house in St. Christopher. This firm has already, through the management of Mr. Samuel Abbott (for Mr. Wade now resides in England), shipped sugar to the value of \$250,000 to New York since the 1st of January last.

STEPHEN W. PARKER,
Commercial Agent.

ST. CHRISTOPHER, W. I., *July 15, 1893.*

ELECTRIC STREET RAILWAY IN BANGKOK.

An extensive improvement has just been completed in this city, in which Americans and American inventions have played the leading parts. I refer to the equipment with electricity of the only tramway line here, a tramway which has heretofore been run by horse power.

In the summer of 1891 the manager of this company made a tour of Europe and the United States investigating the subject of motive power for street railways. After a thorough investigation of the methods used on both sides of the Atlantic, he entered into a contract with the Short Electric Company, of Cleveland, Ohio, to put in a plant here and equip 3 miles of road, the cost to be something like \$50,000.

In November, 1892, Mr. W. J. Davison, an electrician for the Short company, arrived in Bangkok and at once commenced work to carry out the contract, and has just completed his undertaking to the entire satisfaction of the company here—so much so that they are contemplating an extension of the line.

Since the first car was started, some three months ago, the receipts have increased wonderfully. Now, with the entire line completed, enabling the company to run four cars, the increase in receipts has been 30 per cent.

This is the first electric road in the far East, and the satisfactory manner in which this contract has been carried out will not only redound to the credit of the Short company, but to the electrician—Mr. Davison—whose efforts in their behalf have been crowned with such signal success.

More roads of this character are sure to follow in the East. Very much interest could be aroused here in such things, in my judgment, if the electrical companies at home would send representatives out to the Orient to put their claims before the proper people.

ROBERT M. BOYD,
Vice-Consul-General.

BANGKOK, *June 12, 1893.*

THE MINES OF NICARAGUA.

I desire to call attention to the rich mineral zones that are now being operated in the Republic of Nicaragua.

Besides the vast mountainous system, extending to the Atlantic, rich in minerals, but yet unexplored, there are the auriferous mineral districts of New Segovia and Chontales, which to-day produce the gold ore that is exported from this Republic.

The mineral district of La Libertad, in Chontales, is the most ancient, as well as the best developed, in the country, though the machinery is as yet of the most primitive character. The incomes of the mines vary from half an ounce to 2 ounces per ton and the quality of the gold from 14 to 20 per carat.

I here append statistics showing the production of the thirteen mines located in the Chontales district:

Name of mine.	Carat gold.	Ounces to the ton.	Monthly production.
			<i>Ounces.</i>
San Juan de Canidad.....	15	0½	30 to 40
Babilonia	16 to 17	0¾ to 0½	100 to 200
Las Angeles.....	14	0¾	30 to 40
La California.....	14	0¾ to 0½	30 to 40
El Escandalo.....	15	0¾	150 to 200
Santa Elena.....	17	0¾ to 0½	140
La Esmeralda.....	18	0¾	100 to 200
El Tope.....	19 to 20	0¾ to 0½	100
El Chamowo.....	16 to 17	0¾ to 0½	100 to 150
El Javali		0¾	200 to 300
San Miguel.....		1 to 2	30 to 40
Santo Domingo.....		0½	50 to 100
San Gregorio.....	(†)	(†)	100 to 200

* The consul reports this yield as follows: "1 castellano ($\frac{1}{16}$ of a Spanish pound) to three-quarters of an ounce per pound" (*sic*).

† "Ounces per ton and carat not obtainable."

Most of the machinery used in these mines is moved by rude hydraulic turbine wheels and steam power. The machinery generally consists of one or more batteries of four large mallet triturators of the California system and one or more cups in which the ore is beaten or ground.

In Boaco, of the same department of Chontales, there are two mines, but they are operated in the crudest way. One is worked by means of an old mallet engine, the other by an ancient system that they call *molinete*. The first produces 200 ounces, the second 128.

In the department of Segovia the mines are richer, but the bad condition of the roads makes the introduction of machinery very difficult, so that no gold vein is worked that yields less than 1 ounce per ton.

All the hills, all the mountains, and almost all the rivers in that department contain veins, placers, and pockets of gold and silver, croppings of

copper, tin, antimony, lead, and other metals, samples of which formed a conspicuous part of Nicaragua's exhibit at the Paris Exposition.

Nevertheless, almost the entire region remains undeveloped, with the exception of the mines Macueslizo and Dipilto, which in times past gave rich production of silver to the old Spanish colony, and are to-day abandoned only because there is more to be made in gold-mining.

In the mineral districts of Jicaro, Murra, Los Encinos, and Las Vueltas there are no less than twenty mines in operation, with six plants of machinery of ancient construction which are used in reducing gold ores.

The district of Telpaneca, which comprises also San Juan and El Pericon, has at least twelve mines that are nonproducing because of the miners' lack of capital.

Then, again, there are mines of extraordinary richness in the district of Cujé that are not operated with profit for the want of running water to triturate the ore. Most of the mines in this district, especially the extremely rich ones, are operated by the imperfect system of *molinete*.

Taking as a basis 2 tons of ore that are ground each twenty-four hours by the machinery of the different mines in New Segovia, it is ascertained that the monthly output is 900 ounces of gold, without considering the ores reduced in the district of Cujé by the *molinete* process.

There are in Segovia, Chontales, and Matagalpa, vestiges of placer diggings that were worked with profit in the days of the Spanish conquerors. The richest placer diggings are those along the Prinzapulca and Wawa rivers, on the Atlantic coast.

Dr. Buno Mierisch has made an important geological study of the Prinzapulca district, having analyzed ores from thirteen of the mines of that section, especially minerals from Cincuina, La Concepcion, El Dorado, Pis-Pis, and Cuenca del Cucalaia.

Dr. Mierisch is the official geologist of Nicaragua. He has made a voluminous report upon the mineral district of Prinzapulca, covering sixty-two pages of foolscap. Up to the present time his report has not been made public.

The veins of the Prinzapulca and Wawa districts contain both gold and silver, and in the proportion of 0.001 to 0.015 per cent of gold to 0.001 to 0.015 per cent of silver in each ton of ore of 2,000 pounds.

So far I have found it impossible to secure any statistics as to the monthly output of the placer mines; but probably, taking into account the great value of the waters of the River Wawa for extracting the ore, the output can not fall below 600 to 800 ounces.

In the mineral district of Muy Muy Viejo (Matagalpa) they have just established two mining enterprises on veins whose yield is said to be fabulous, amounting to 8 ounces to the ton. I have found it difficult to verify this statement, though as these mines are located in a district known to be exceedingly rich, it may be true.

The *molinete* system, already mentioned, is the same as that known in Mexico as the *arastra*. The *arastra* is composed of a circular granite-paved bottom, from 6 to 20 feet in diameter, surrounded by a wooden inclosure over 2 feet high, with a vertical wooden shaft in the center provided with two or more projecting arms, to which mullers composed of large blocks of granite are attached by means of chains. This primitive, but effective, machinery is operated by mules when water power is not available. The mullers make from six to ten revolutions per minute, with a capacity of grinding from $1\frac{1}{2}$ to 2 tons of rock (the fragments being broken as small as a hen's egg or less) in twenty-four hours. Of the *arastra*, Mr. Kustel, a high authority, writes as follows:

When in motion, the *arastra* is charged with 200 pounds of ore, with some water. One-quarter of an hour afterward the balance of the whole charge, from 400 to 500 pounds, is introduced. As soon as the ore is turned into mud 1 or 2 ounces of quicksilver are pressed through a dry cloth over the thick pulp.

A sample is taken from time to time with the horn spoon, washed and examined. When free gold is perceived, after the amalgamation has gone on for some time, some more quicksilver may be added. The first charges require a little more quicksilver. After four or five hours the pulp is diluted with water and discharged.

The next charge is treated in the same way, and so on till 100 or 150 tons are worked through. The quicksilver must be used always in proportion with the gold—1 or $1\frac{1}{2}$ ounces to 1 ounce of gold. The amalgam imbeds in the crevices of the bottom and must be always dry.

The use of too much quicksilver makes the amalgam thin, causes an imperfect amalgamation, and a loss in quicksilver, which is often found beneath the bottom rock.

When the reducing and amalgamating process is finished the slime is washed off and the amalgam cleaned up, squeezed, and retorted.

To Mr. José D. Gamoz, of Managua, editor of the *El Termometro*, I am indebted for much of the valuable data entering into this report.

WILLIAM NEWELL,

Consul.

MANAGUA, July 13, 1893.

TRANSFER OF LAND IN AUSTRALIA.*

Advantage has been taken to an enormous extent of the general simplicity and utility of the Torrens act.

An owner who wishes his land placed on the register has to make application and submit all his title deeds for examination; he is also required to make oath to the value of the land. Public notices of the application have to be issued, and any person may enter a caveat against it. The time for lodging a caveat lapses from thirty-five to seventy days after publication of notice in the Official Gazette, unless proceedings are taken and notice thereof

*Reference is made to the report of Consul-General Wallace in No. 154, p. 337, upon the same subject. The present report is valuable because it contains an account of the details of the system of registering and transferring land titles in Australia.

served on the registrar-general, or unless an injunction is obtained from the supreme court restraining the registrar-general from bringing the land therein referred to under the provisions of the act. Further machinery is provided for obtaining decisions on any doubtful or disputed point, and there is a general right of appeal to the supreme court. When the title has been approved, the name of the owner is entered on the register, and a certificate of title is issued. The former title deeds, as far as they have exclusive reference to the land in question, are canceled by the registrar-general. On being registered as owner the applicant acquires a title which, subject only to such incumbrances or interests as are entered on the register, is an indefeasible one. Provision, however, is made for the subsequent invalidation of a certificate of title if it can be shown to have been obtained by fraud. If the certificate of title should be lost, a copy of it, attested by the registrar-general, will suffice for all the purposes for which the original certificate was good. The land is transferred or dealt with by short instruments framed according to certain simple statutory forms, which, in their turn, are duly registered. A new owner acquiring land by such a transfer may have either a fresh certificate of title issued to him or an indorsement showing the transfer put upon the old one. One of the criticisms of this system generally considered well placed is that the great distinction between fiduciary and beneficial ownership is not adequately recognized. The trusts which create ownership of the former kind are not entered on the register; but the technical difficulty is obviated in practice by a simple provision. A duplicate of the instrument creating the trust may be deposited with the registrar-general, who is then bound to enter a caveat prohibiting the registration of any instrument not in accordance with the trusts; such a caveat does not lapse with effluxion of time, but remains for the perpetual protection of the trust property. This course, which the act makes permissible, obviously ought to be adopted by those creating any trust upon lands.

No instrument dealing with land is effectual until registered. Persons who enter into contracts with a registered owner must either trust to his honor or protect themselves by entering a caveat. Over and above the costs of advertisement, when an application is lodged, fees, generally small in amount, have to be paid upon the several acts which the statute enjoins or allows. A further charge is also made of half a penny per £1 of the sworn value of the land. This tax is applied to an assurance fund, which now amounts to a large sum, and exists to be drawn upon for the indemnification of the government. It is a signal proof of the excellence of the system and of the smoothness of its working that this fund has not been drawn on to any considerable extent.

WM. KAPUS,
Consul.

SYDNEY, June 27, 1893.

AMERICAN MANUFACTURES IN BELGIUM.

As many letters are annually received at this consulate requesting information relative to introducing American manufactures into the Belgian market, and as no special effort, as far as I can learn, has yet been made by the manufacturers of the United States to increase the export trade with this country, I have prepared the following report relative to the present situation.

It is generally conceded by the commercial, as well as the agricultural, classes of this country that almost all articles coming from America designed either to increase the comfort of man or lighten his labor are of a quality and workmanship superior to similar products of other countries. American machinery, sewing machines, tools, agricultural instruments, etc., are lighter, stronger, and more scientifically constructed than similar manufactures sold on this market.

STOVES.

From time immemorial the method of heating houses in this country has, until lately, been wholly by open-grate fires. Owing to the severe cold prevailing here during the long winter months, this primitive mode of heating has to a great extent been superseded during the past few years by the employment of a heating apparatus resembling in style and system the American stove commonly known as the "base-burner." These, as well as cooking stoves and ranges, are manufactured principally in Germany, and are in nearly every particular identical with the American product, which, I am informed, is rarely found on this market. There is a constantly increasing demand for the heating stove. It is not uncommon to see the base-burner in the homes of the middle and lower classes, who have been attracted not only by its artistic construction, but also and mainly by its superior heating power and its great economy of fuel, an article which is scarce and dear here. It appears to me that this branch of trade ought to be entirely in the hands of American manufacturers. There is no reason why our stoves should not be placed upon this market at prices as reasonable as those coming from any other country.

As I am frequently called upon by business men of this community to furnish addresses of American manufacturers and dealers, I have given much thought to the question—what is the most advantageous and practical means of introducing our manufactures into Belgium? With my knowledge of the Belgian character, I believe the most satisfactory, as well as practical, means of doing this would be through the establishment of a general agency in this city where our manufactures could be advantageously displayed, such an establishment to be supported by interested manufacturers and dealers. If such goods as sewing and other machines, agricultural implements, garden utensils, lawn-mowers, electric machinery, carriages, wagons, rubber goods,

corn meal, canned goods, oils, grains, seed, etc., could be presented by a person thoroughly conversant with our industries, I am convinced that in a very short time more than half of the articles now furnished by France, Germany, and other countries would come direct from the United States to Belgium.

GEO. W. ROOSEVELT,
Consul.

BRUSSELS, *July 26, 1893.*

THE SEAL CATCH OF 1893.

Up to this date five British sealing schooners and one American have returned to this port from the sealing grounds, and we are beginning to get some details of the season's operations. The British cruiser *Garnet* brought news from the British North Pacific fleet up to June 28 (the date of her sailing from Sand Point) and the number of skins taken by each vessel up to the different days in June, running from the 6th to the 28th, on which they were boarded and notified not to enter Bering Sea. Thirty schooners were so visited, and the total number of skins taken at the date given was 21,599.

The American schooner *Mary Brown* arrived here from the Japan coast yesterday morning. She had 975 skins and a few pup skins. The whole were shipped to London by Capt. Brown. He is an experienced sealer, having been in the business since 1875, and now lives in Alaska. He says the sealing grounds on the Japan coast are small compared with those of the Alaskan waters. They are only about 500 miles long from north to south and 60 broad from east to west. Seals were quite numerous, and he thinks the total catch of the season on that coast will reach 80,000 skins. I judge from reports received here and at San Francisco that this is an overestimate.

The total sealing fleet of this year is about ninety-two vessels. Of these, thirty-two cleared from San Francisco, six from Seattle, and fifty-four from this British port. Of the last, twenty-four went in the spring to the Japan coast and thirty to Alaskan waters. About one-half of the Alaskan fleet went over to the Russian side the first part of the present month, and the remainder are now returning to this port.

Up to date about 20,000 skins have been received in this market, and several small lots have gone forward to London, perhaps 10,000 in all. Prices in Victoria range from \$11 to \$15 per skin, according to size, quality, and condition. The average is from \$12 to \$13. A few lots were contracted for at \$15 at the time the fleet set sail in the spring, and now buyers are trying to free themselves from their obligations.

It is estimated that the total catch of the season, British and American, and including both sides of the Pacific, will reach at least 100,000 skins.

LEVI W. MEYERS,
Consul.

VICTORIA, B. C., *July 29, 1893.*

FINANCIAL CRISIS IN AUSTRALIA.

EXTENT OF THE CRISIS.

The convulsion in all financial affairs which has lately occurred in Australia is without precedent in the annals of its history.

From the close of 1891 until the commencement of the present year there were in these colonies a series of suspensions of minor institutions involving about £30,000,000. During the last few months no less than twelve of the oldest established banks of issue have been compelled to seek refuge in reconstruction, having for its end the fixing of the borrowed capital employed in the banking business, partly in a permanent form, but mostly for a stated period.

The aggregate of the totals gathered from the last published balance sheets of the twelve banks referred to is £103,315,214, made up as follows :

Name of bank.	Date of last balance sheet.	Date of suspension.	Total.
Commercial Bank of Australia.....	Dec. 31, 1892	Apr. 5, 1893	£14,694,056
English, Scottish, and Australian Chartered Bank.....	Sept. 30, 1892	Apr. 13, 1893	8,268,349
Australian Joint-Stock Bank.....	Dec. 31, 1892	Apr. 16, 1893	13,078,494
London Chartered Bank.....	.....do.....	Apr. 22, 1893	8,752,558
National Bank of Australasia.....	Mar. 31, 1893	May 1, 1893	12,885,987
Colonial Bank of Australasia.....	.....do.....	May 6, 1893	4,394,280
Bank of Victoria.....	Dec. 31, 1892	May 10, 1893	8,746,785
Queensland National Bank.....	.....do.....	May 15, 1893	10,622,970
Commercial Banking Company of Sydney.....	.....do.....	May 16, 1893	14,025,042
Bank of North Queensland.....	.....do.....	May 15, 1893	651,304
City of Melbourne Bank.....	Mar. 31, 1893	May 17, 1893	5,835,734
Royal Bank of Queensland.....	Dec. 31, 1892	.....do.....	1,359,605
Total.....			*103,315,214

*NOTE BY THE DEPARTMENT.—In Bradstreet's of July 15 it is said that of this total the shareholders' capital and undivided profits amounted to £13,469,786, the balance—£89,845,428—being due to the public, principally depositors.

Adding the £30,000,000 already mentioned, the total amount affected is estimated at £133,000,000. It must not be considered that all this vast sum is in jeopardy, but it can easily be imagined what the disturbance of assets valued at £133,000,000 must mean to a population as sparse as that of Australia.

CAUSES.

It is natural to suppose that there must have been some factors at work to undermine Australian finances and bring about such an unprecedented panic. It is considered that over one of these causes at least the colonies have had control and are directly responsible, viz, overborrowing in the London market; the national debt of this colony alone on the 31st of Octo-

ber, 1892, was £54,074,433. Another cause of the trouble was the low prices realized for the chief Australian staples of export, and still another the peculiar manner in which so-called banking has been conducted.

Overborrowing led to overlending and ultimately to inflation, accepting as a criterion the fictitious values prevailing during the period of the colonies' greatest prosperity. The immense amounts derived from the excessive English loans, backed up by the influx of interest-bearing deposits from abroad, amounting to many millions of pounds, and the receipts from the sale of the Australian staples (the Australian wool clip of 1890 alone was sold for £20,349,300), flooded this country with money and cultivated habits of extravagance and carelessness both in the governments and the people. Large sums were expended on works far in excess of present requirements, excessive salaries were paid to the officers and employes in the civil service, and the whole machinery of the governments was conducted on a scale entirely incommensurate with the actual resources and abilities of the country. But, when the placing by the governments of further loans in England became impracticable, and in consequence public works, etc., were almost brought to a standstill, throwing large numbers of mechanics and laboring men out of employment; when real estate, which had been bolstered up by various land booms, declined in value and became almost wholly unavailable for financial purposes; when the money market became tight, as the country was being drained to pay the interest on the public debt and the fixed bank deposits; when the bank shares began to decline and the quotations fell lower and lower from day to day, and especially when the Federal Bank of Australia closed its doors and went into liquidation, the current-account depositors became alarmed and made runs upon the banks, which in a large majority of cases could not be met, as their assets consisted chiefly in unavailable real estate and sheep-station securities. No other course was left open to them but to suspend payment and endeavor to reconstruct on a more solid basis.

The returns and balance sheets of the suspended banks show that they are entirely solvent, but that their capital is locked up in investments and loans of a character upon which it is impossible to realize under present circumstances.

RELIEF MEASURES.

The government of this colony, in order to allay the panic, passed a bill making the bank notes (circulation) a first charge on the banks' assets and declaring the notes of the banks that had survived the storm a legal tender for a certain length of time. This act was published in a proclamation by the governor under date of May 15.

The government has also, in order to afford relief to current-account depositors, passed a bill providing for the advance of 50 per cent on such deposits in government treasury notes. By this measure those in urgent need are enabled, for a time at least, to overcome their difficulties. The passing of these acts and the action of the government had a reassuring effect,

and no further suspensions have been announced ; in fact, it is hoped and believed that the worst is passed.

RECONSTRUCTION SCHEMES.

All of the suspended banks have reconstruction schemes now under consideration. The Commercial Bank of Australia has already commenced operations again, and, as the proposals of the others are, on the whole, looked upon with favor by the depositors and shareholders, it is thought that as soon as the various legal formalities can be complied with they will again begin business.

The following is a short synopsis of these proposals in connection with depositors :

Commercial Bank of Australia.—One-third in preference shares and two-thirds in five-year deposit receipts bearing $4\frac{1}{2}$ per cent interest.

National Bank of Australia.—One-third in preference shares and two-thirds in $4\frac{1}{2}$ per cent deposit receipts payable in five, six, and seven years ; but depositors may take $4\frac{1}{2}$ per cent deposit receipts for fifteen years in lieu of preference shares.

Bank of Victoria.—Fixed depositors receive one-fifth in preference shares and four-fifths in $4\frac{1}{2}$ per cent deposit receipts repayable in five, six, and seven years from the date now repayable. In lieu of preference shares 4 per cent deposit receipts at fifteen years may be taken.

Colonial Bank of Australasia.—Fixed depositors receive one-fourth in preference shares and three-fourths in $4\frac{1}{2}$ per cent deposit receipts repayable five and seven years from the dates now repayable. Current accounts may rate as above, or the directors may grant a larger portion of deposit receipts and repay all accounts up to £100.

City of Melbourne Bank.—Fixed depositors receive one-fifth in preference shares and four-fifths in $4\frac{1}{2}$ per cent deposit receipts repayable five years from the dates now repayable ; 4 per cent ten-year deposit receipts may be taken in lieu of preference shares. Current accounts may rank as above, or the directors may repay all sums up to £100 or advance on all current accounts at $4\frac{1}{2}$ per cent.

Australian Joint-Stock Bank (revised scheme).—The whole in deposit receipts (negotiable or inscribed) at $4\frac{1}{2}$ per cent interest repayable 10 per cent in four years and thereafter 10 per cent annually. On current accounts directors may advance at discretion.

Commercial Banking Company of Sydney.—Fixed deposits receive $4\frac{1}{2}$ per cent negotiable deposit receipts repayable in five, six, seven, and eight years on 4 per cent debentures or permanent inscribed deposit stock. Current accounts receive $3\frac{1}{2}$ per cent deposit receipts repayable 10 per cent in one month, 5 per cent in six months, and 5 per cent quarterly until redeemed in full—say in five years—or they may receive 4 per cent negotiable deposit stock.

English, Scottish, and Australian Chartered Bank.—Deposits and current accounts receive one-fourth in 4 per cent debenture stock, one-fourth in

terminable deposit receipts repayable in seven, eight, nine, ten, and eleven years, and one-half in $4\frac{1}{2}$ per cent inscribed deposit stock. Current accounts under £50 will be paid in full, and the directors may advance 25 per cent.

London Chartered Bank.—Deposit and current accounts receive one-fourth in 4 per cent transferable debenture deposits repayable in 1900, 1901, 1902, 1903, 1904, 1905, 1908, 1909, 1910, 1911, 1912, and 1913, with the option of taking one-fourth in $5\frac{1}{2}$ per cent preference shares. Overdrafts will be allowed on current accounts, and until half the total deposits are repaid no ordinary dividend to be paid over 5 per cent.

Royal Bank of Queensland.—Fixed deposits receive 4 per cent debentures repayable in five, six, seven, and eight years. Current accounts under £50 are repaid within two months, and other current accounts receive 3 per cent debentures repayable in one, two, three, and four years, or they may rank with the fixed depositors.

Queensland National Bank.—Fixed deposits receive twelve deposit receipts, first payable in six years, the balance in intervals of six months, bearing interest at $4\frac{1}{2}$ per cent, or negotiable deposit receipts repayable only at the option of the bank on six months' notice, bearing interest at $4\frac{1}{2}$ per cent; directors to have power of advancing on current accounts.

Bank of North Queensland.—Reconstruction scheme not yet announced.

PROPOSED BANKING REGULATIONS.

The premiers of the colonies of New South Wales, Victoria, and South Australia recently met in conference at Melbourne to consider the financial condition of the colonies. It was agreed—

That recent events prove that laws require to be enacted in all the colonies, and that legislation should be uniform; that state national banks as popularly understood are not required, but that banks of issue should be subject to conditions and restrictions somewhat similar to those imposed on national banks in the United States of America; that these conditions would require a deposit of bonds of the colony or of coin in the treasury as against note issue, which the government should guaranty, and also returns to and inspections by the government of the general business of the banks; while deposits not bearing interest should be a first charge upon the assets of a bank, and the government should have authority to interpose in the event of a panic.

No action has been taken as yet by the parliaments of the several colonies to carry the above policy into effect.

Australia is, in natural resources, salubrity of its climate, fertility of its soil, mineral wealth of its mountains, and abundance of its forests, one of the richest lands in the world, and, though at present it is laboring under many difficulties and drawbacks, the time will come when those limitless resources will be thoroughly developed and Australia become a flourishing and powerful nation.

WM. KAPUS,
Consul.

SYDNEY, N. S. W., June 6, 1893.

Australia is at present going through a financial crisis that would test to the utmost the resources even of an older country.

From the time that its population was largely augmented by the influx of gold-seekers until three or four years ago everything was booming and money plentiful. Land changed hands at extravagant figures, and the London money market was always open for loans to carry on public works. Everything was at high pressure, as is usual in such cases, and large fortunes were made and lost. But a habit of fast living was contracted, and the governments made no attempt to live within their income.

So long as the boom lasted the banks profited largely and paid fancy dividends. The moment the boom subsided the banks suffered with the individuals, having advanced large sums on land at fictitious values. Owing to this and the withdrawal of deposits, chiefly Scotch, no less than fourteen banks have closed their doors pending reconstruction.

Banking business is conducted in this country in a manner different from that in the United States. There are, or were, only about twenty banks in the whole of Australia, but they have a branch in every little village and hamlet wherever there is sufficient present or prospective business to warrant it. In fact, what chiefly strikes a stranger in Australia is the multitude of its banks, from the palatial head office enriched with carvings and gilding to the small weatherboard offices in bush townships. If you have some money you wish to invest, you are saved the trouble of looking around for a good and safe investment. You simply put it in the bank on fixed deposit, receiving interest for it at the rate of from 5 to 8 per cent, according to the length of time it is deposited. The borrower leaves his title deeds with the bank as security for the money lent. The banks, of course, do the usual banking business as well. They are also allowed to issue notes, which in time of failure or suspension are worthless as a circulating medium unless by law they are a first charge upon the assets, which was not the case in this colony prior to the present panic.

The first institution of importance that closed its doors (there had been two smaller ones previously and numerous building societies) was the Commercial Bank of Australia (limited), on the 5th of April last. This suspension was a premeditated affair, as they were ready with their scheme of reconstruction simultaneously with the closing of their doors.* It certainly is an extraordinary piece of financiering. Before the depositors had recovered from their daze the thing was an accomplished fact, and they were shareholders. A plan was devised to avoid losing customers, pending the formalities of reconstruction. Trust accounts were opened altogether separate from the old accounts—not being used for ordinary banking business.

As other banks began to get shaky and confidence in such institutions generally destroyed, this particular bank not only retained its own customers, but secured numerous other trust accounts, many of them from banks that

*The text of this scheme is appended to this report.

did not suspend at all; and, being the first to reconstruct with an enormous capital, kept them after resuming ordinary business.

For some little time after the Commercial Bank suspended there was a lull, and confidence was partially restored; but of a sudden another went, and then yet another—one of the largest in the colonies—and after that for some time it was a daily occurrence for one or more to go, until fourteen had been added to the list. To stem the tide in Victoria the government proclaimed a five days' bank holiday. The expediency or wisdom of this action was much questioned, and some of the banks that were yet standing refused to take advantage of it. This refusal had a greater steadying influence than anything that could have happened at the time.

Of fourteen of these institutions that have suspended, one has been reconstructed and is carrying on business. With two or three exceptions, the rest have prepared for the approval of their shareholders and depositors schemes of reconstruction, several of which have already been accepted, at least formally, and there is a prospect of an early resumption of business by most, if not all, of the banks. Every one that has failed within the past two months hopes soon to be again among the vital institutions of the country. Beginning with the failure of the Federal Bank of Australia in March, the crisis has been most disastrous in Melbourne, having swept into liquidation no fewer than seven of the banks having head offices there. Of New South Wales banks two have succumbed. In Queensland three local banks have failed, the remaining two being English institutions.

So far the banks of Australia that have closed their doors are as follows:

Name of bank.	Time of suspension.	Due to public.	Advances.
Commercial of Australia.....	Apr. 5	£12,636,066	£12,157,978
English, Scottish, and Australian Chartered.....	Apr. 13	7,028,679	6,493,282
Australian Joint-Stock.....	Apr. 16	11,772,847	10,447,933
London Chartered.....	Apr. 22	7,384,600	7,411,297
National of Australasia.....	May 1	11,155,499	10,130,857
Colonial of Australasia.....	May 6	3,820,458	3,673,201
Bank of Victoria.....	May 10	7,857,405	6,804,235
Queensland National.....	May 15	9,279,344	8,343,918
North Queensland.....	May 15	391,281	524,930
Commercial of Sydney.....	May 16	12,439,140	11,016,522
City of Melbourne.....	May 17	5,103,553	4,657,987
Royal of Queensland.....	May 17	927,556	1,049,167
Total.....		89,845,428	82,711,397

These banks had paid-up capital and reserves amounting to £13,469,786. They had cash and investments amounting to £17,296,793 and premises to the value of £3,605,024. Many of them paid dividends last year as high as 15 per cent.

There have been great bank failures in other parts of the world, but it may be questioned whether there have ever been reconstructions on such a scale elsewhere. This, I believe, will stand out as a peculiar feature of the

Australian financial crisis of 1893. In other countries bank failures have usually meant liquidation and an untold amount of suffering. So far there seems to be here but little actual suffering and but few failures. What the after harvest may be, remains to be seen.

Without attempting to criticise the different features of these reconstruction schemes, it might be said that the conditions of some of them tell rather severely on creditors and could be modified with advantage. Indeed, something has been done to render them more acceptable; and the framers of each succeeding scheme, gaining experience by the defects of the earlier ones, have given comparatively better results. But, whatever may be the defects of the various schemes, depositors from first to last have accepted the situation and given consideration and time to their debtors. Amid all the embarrassment to which depositors have been subjected, there has never been more than a very small minority to insist on the performance of contracts rendered impossible under the existing conditions of banking. Although there have been cases of hardship quite as serious as on occasions have excited popular tumult and resistance, it has been felt that they did not warrant the enforcement of liquidation.

During the earlier stages of the panic the government of New South Wales, in order to stem the tide and afford as much relief as possible, rushed through two short acts, the first dealing with the bank issue and the second with current accounts.*

The second part of the bank-issue act has given rise to considerable speculation as to its ultimate consequences. It provides that the governor in council may, by proclamation published in the Gazette and at least three newspapers in the colony, declare the notes issued and to be issued legal tender within the colony for the amount of their face value for the period of the proclamation and shall thereafter be payable in gold by the bank issuing them. And if, within six months after the expiry of the term of the proclamation, the notes have not been paid on presentation to the bank, the holder, not being a bank, shall be entitled to receive gold for them from the colonial treasurer. For the repayment of the notes by the banks the governor in council may require adequate security, and the proclamation is not to be made unless the governor in council is satisfied that, as between the bank and its creditors, its assets exceed its liabilities by at least the sum of the paid-up capital and the reserve profits. The extent of this issue, which has been a much-debated point, is left unchanged. In the various private acts of the local companies their note issues are limited to the amount of their actual paid-up capital and "to any such further amount in excess of the said capital as they shall hold coin and bullion." It may be remarked that the clauses allowing these issues contained the proviso that they shall continue in force until some general act is passed by the legislature for the regulation of note issues.

*These acts are appended.

The rights of the intercolonial and English banks are published in their charters. On the basis of their private acts, the local banks may issue the following amounts of notes, including the Commercial and excluding the Australian Joint-Stock:

Bank.	Capital.	Average gold and bullion.	Right to issue.	Actually issued.
New South Wales.....	£1,250,000	£1,186,644	£2,436,644	£333,144
Commercial.....	600,000	1,581,648	2,181,648	385,499
City of Sydney.....	280,000	139,681	419,681	33,499

Assuming the present note circulation of the local banks to be £600,000, they will have under this act the right of issuing about £4,838,000, or over £4,000,000 in excess of the present amount. The government guaranties these notes without deriving any benefit whatever.

One of the immediate effects is to withdraw gold from circulation. One of the aftereffects will most probably be to make the Bank of New South Wales occupy a similar position to this colony that the Bank of England does to England.

The other act, passed for the ostensible purpose of trying to relieve in some measure the hardships suffered by the people who had their call deposits locked up, styled the "current-account depositors' act of 1893," completes, so far, the series of legislative enactments called into existence by the present panic. By this act the government commit themselves to the issuance of paper money direct from the treasury and foreshadow the adoption of a banking system in the near future similar to that in vogue in the United States.

It provides that, on application by the holder of a current account to the provisional official liquidator of any suspended bank, a certificate is to be issued to the effect that at the time of the suspension of payment by the bank there was due to the creditor the amount of his current account. This certificate may be dealt with in two ways: the creditor may take it to the treasury and, on depositing it there with a statutory declaration that he has not dealt with or charged the moneys certified to be due, receive such advance as the treasurer thinks fit, not exceeding one-half of the amount due him; or a like advance may be made on it to the liquidator on his behalf, the amount of the advance to be placed by the liquidator in the bank in trust for the creditor, and not to be lent out or invested by him, and the liquidator shall pay it out on the written request, in the form of checks or orders, of the person on whose behalf he has received and holds it, or of bills or notes accepted or made by that person, domiciled at the bank, and maturing at or subsequent to the receipt by him of the money. Upon making the advance to the creditor or liquidator, the treasury officer gives a receipt to the effect that he holds the certificate as security for the advance. The certificate, duly indorsed by the creditor, places the treasurer in possession of all the rights of the creditor, but does not give any preferential rights. The

treasurer is to receive all dividends, interest, and other profits payable in respect of the money on current account, or of the shares or securities into which they may have been converted, and pay the same into the consolidated revenue fund for the use of the government. All principal paid in respect of the certificate is also paid into the consolidated revenue fund for the use of the government until the amount of the advance has been received. Everything in excess of that is to be paid to the creditor. One of the objectionable features of this act is that the government takes the interest or profits on the whole account for the loan of half. In other words, it charges double rate of interest for the use of one's own money. Again, if one is not able to repay the money advanced before the expiration of five years, the government appropriates not only the whole of the interest, but the whole of the principal as well.

The act has now been in force several days, but has not yet been taken advantage of to any extent, notwithstanding there are about \$20,000,000 locked up in these current accounts in the suspended banks.

The banking troubles have not occurred at a time when the banks were in an exceptionally weak condition, as will be seen from the following table, which shows the figures in comparison with those of the preceding quarter and the corresponding quarter of 1892 :

Colonies.	Deposits.	Note circulation.	Coin and bullion.	Advances.	Percentage of reserves to liabilities.
<i>March, 1893.</i>					<i>Per cent.</i>
New South Wales.....	£35,994,353	£1,423,898	£5,869,013	£42,577,267	15.3
Victoria.....	39,379,238	1,208,186	8,287,022	49,998,827	20.3
South Australia.....	7,649,718	422,457	1,659,463	7,068,076	20.3
Tasmania.....	3,800,749	110,059	687,493	3,163,330	17.7
New Zealand.....	14,550,942	1,003,393	2,501,903	15,048,340	16
Queensland.....	10,759,527	547,745	2,044,371	17,397,172	18
Western Australia.....	1,419,182	102,028	435,751	2,237,354	28
Total.....	113,553,709	4,818,766	21,484,993	137,484,366	18.1
<i>December, 1892.</i>					
New South Wales.....	35,564,192	1,439,871	5,313,265	44,135,729	13.1
Victoria.....	40,028,169	1,210,565	8,178,287	52,631,227	19.7
Tasmania.....	3,665,875	110,680	669,219	3,170,418	17.6
South Australia.....	7,499,518	400,156	1,631,863	7,494,850	20
New Zealand.....	13,832,141	955,623	2,522,725	15,025,212	17
Queensland.....	10,493,904	575,435	2,022,263	17,443,912	18.7
Western Australia.....	1,319,725	101,433	431,121	2,206,197	31.4
Total.....	112,403,524	4,793,763	20,828,743	142,107,545	17.7
<i>March, 1892.</i>					
New South Wales.....	36,698,091	1,611,672	5,011,728	44,252,527	13
Victoria.....	39,928,901	1,351,799	7,488,526	53,825,893	18
Tasmania.....	3,850,535	139,916	698,648	3,484,131	17.3
South Australia.....	7,871,556	462,565	1,641,230	8,104,019	19.6
New Zealand.....	13,216,281	975,611	2,356,047	13,981,490	16.5
Queensland.....	9,865,221	579,824	2,034,282	17,405,245	19.4
Western Australia.....	1,436,222	97,368	421,745	1,887,960	27.4
Total.....	112,863,807	5,212,755	19,652,206	142,941,265	16.5

It will be seen that the banking crisis has followed a quarter in which the reserves of gold were considerably larger than in the December quarter or in the March quarter of 1892. The averages of gold last quarter amounted to £21,484,366, being an increase of £646,250 on the figures of December, and no less than £1,832,787 more than a year back. Moreover, since these averages may be said to represent the state of affairs in the middle of February, and the production of gold since has probably amounted to £1,500,000, of which comparatively little has been exported, the reserves at the present time will probably be from £2,500,000 to £3,000,000 in excess of the figures of a year back before the troubles began. The amount of gold was not only greater than at any previous time, but, in proportion to liabilities, it was 18.1 per cent larger. So that really there would seem to have been no cause whatever for the panic.

The close of the present week is certainly brighter than was the end of last week, and the people of Australia are beginning to face the troubles which have come so suddenly upon them with that hopefulness begot of a long experience of sunshine and cloud in the variations of colonial life. The financial crisis which has so grievously affected many who once considered they were beyond the reach of want has been wide in its operations, and has involved not only all the colonies, but every rural settlement throughout the land. The inconvenience to the public during the last few weeks of excitement and depression has been very great; for local bodies and societies have been involved, as well as individuals, and by no ordinary prudence and foresight could calculations regarding the future be made. The calamity, however, has been so common that its magnitude produced a feeling of forbearance between man and man in the same way as would a flood or a pestilence, and, considering the greatness of the loss and the inconvenience caused by the general dislocation of business, the wonder is that matters generally are no worse.

The general success of the scheme of reconstruction promulgated by the various banks is a cheering feature in the situation, notwithstanding there was little else to do. Although much prestige will attach to the banks that have weathered the storm, one of the curious features in this memorable panic is that the reconstructed banks will financially be in a stronger position relatively than the others.

Notwithstanding the general depression, the falling off in revenue, and the bank failures, not one Australian colony has yet defaulted, and the country itself has been little affected for the worse by the trouble. And though undoubtedly there are dark days yet ahead, it is my firm belief that these colonies will come through the ordeal with honor.

GEORGE T. BAGGS,
Commercial Agent.

NEWCASTLE, N. S. W., *June 3, 1893.*

[Inclosure No. 1.]

PROPOSED SCHEME OF COMPROMISE OR ARRANGEMENT BETWEEN THE COMMERCIAL BANK OF AUSTRALIA (LIMITED) AND ITS CREDITORS.

(1) That the present company (hereinafter called the old company) be wound up voluntarily, and that liquidators be appointed for the purpose of such winding up.

(2) That the said liquidators forthwith call up the whole of the uncalled capital of the old company.

(3) That a new company be formed with a capital of £6,000,000, divided into 300,000 preference shares of £10 each and 300,000 ordinary shares of £10 each, for the purpose (with other purposes) of acquiring all the property and assets of the old company, subject to the debts and liabilities thereof, the new company undertaking to pay, satisfy, and discharge all the liabilities of the old company in manner as hereinafter provided; and also to pay the costs of and incidental to the winding up and dissolution of the old company; but the formation and completion of the new company shall not depend upon the subscription of the whole of the above-mentioned capital.

(4) That the articles of association of the new company shall provide that the preference shares shall be preferential as to capital until the new company shall have paid ten half-yearly dividends each at the rate of at least 8 per cent per annum, when their preference as to capital shall cease.

(5) That the articles of association of the new company shall provide that the preference shares shall be preferential as to the dividends as follows, namely: Each half year the holders of preference shares shall be entitled to a dividend up to the rate of 5 per cent per annum before the holders of ordinary shares are entitled to any dividend; the holders of ordinary shares shall then be entitled to a dividend, if available, up to the rate of 5 per cent per annum; and any additional dividend shall be paid at an equal rate upon the amount paid up per share to holders of preference shares and to holders of ordinary shares.

(6) That preference shares may be allotted to any shareholder or creditor of the old company or to the public upon payment of the sum of £10 per share in cash, or in satisfaction of the claim of any creditor of the old company at £10 per share.

(7) That the liquidators of the old company be, and they are hereby, authorized to sell to the new company all the property and assets of every description of the old company, including the present uncalled capital of the old company to be called up by the liquidators as hereinbefore provided, subject to the liabilities of the old company, the consideration for such sale to be 300,000 ordinary shares of £10 each in the new company credited as paid up to £4 per share, to be issued to the shareholders of the old company as hereinafter mentioned.

(8) That each of the members of the old company shall be entitled to receive and shall accept one of the said ordinary shares in the new company for each share held by him in the old company.

(9) That every member of the old company who shall accept ordinary shares in the new company, equal in number to those now held by him in the old company, shall be thereby released from payment of all calls to be made by the liquidators as aforesaid in respect of the present uncalled capital of the old company.

(10) That the articles of association of the new company shall provide that the balance of £6 per share in the new company shall be paid as follows, namely: The sum of 5s. per share on the first day of every third calendar month, the first of such payments to be made on the 1st day of July, 1893, and a subsequent payment on the first day of every third calendar month thereafter, until the whole of such sum of £6 shall have been paid.

(11) Save as hereinafter provided, every creditor of the old company, except Her Majesty's Government and the holders of the bank notes of the old company (who are preferential creditors), shall be entitled to receive the deposit receipt of the new company for two-thirds (as nearly as practicable) of the amount of principal now owing to such creditor by the old company, and such deposit receipt shall bear interest at the rate of interest (if any) now pay-

able up to the time when the principal is now payable, and thereafter at the rate of $4\frac{1}{2}$ per cent per annum payable half-yearly, and the principal amount of such deposit receipt shall be payable at the expiration of five years from the date when such principal is now payable by the old company; but the new company shall have the option of paying off the amount of such substituted deposit receipt before its maturity upon giving to the holder thereof three calendar months' previous notice of its intention so to do. The interest now due and accruing due shall be paid as on the day it became or now becomes due by the old company, and the dates for payment of subsequent interest shall commence six calendar months thereafter, and all payments of principal and interest shall be made at the places where the same are now payable.

(12) Save as hereinafter provided, every creditor of the old company (except as aforesaid) shall also be entitled to receive preference shares in the new company credited as fully paid up, equal in nominal value to the balance of principal now owing to such creditor by the old company, and not provided for by clause 11.

(13) Save as hereinafter provided, the creditors of the old company (except as aforesaid) shall accept the provisions made for them in clauses 11 and 12 of this scheme in satisfaction and discharge of all claims against the old company, and shall at the time of their application for a new deposit receipt and shares deliver up all deposit receipts and drafts or other similar documents issued to them by the old company to the new company, to be canceled.

(14) That an account, to be called an assets-realization account, shall be kept by the new company, and such account shall be debited with all the present liabilities of the old company to its creditors, and also with the sum of £1,200,000, the amount of capital to be credited upon the ordinary shares to be issued by the new company, and also with the costs, charges, and expenses of winding up the old company or incurred by the new company in or incidental to managing and realizing the assets hereby agreed to be sold, including such fair proportion of the salaries paid by the new company and of their office and other expenses as may be properly attributable to such realization, and such account shall be credited with all moneys which shall be received by the new company from the sale or getting in of or otherwise from or on account of any and every of the assets (including calls) of the old company hereby agreed to be sold to the new company; and such account shall also be credited with the value of the bank premises of the old company, which are to be taken over by the new company as if realized at the actual amount at which they now stand in the books of the old company, but in such account nothing is to be charged for good will, furniture, or stationery, except such sum (if any) at which such furniture was valued in the last balance sheet of the old company, and the amounts from time to time as the debit of such account shall be debited with interest half-yearly at the rate of $4\frac{1}{2}$ per cent per annum, with half-yearly rests. Provided, that if any half year the dividend declared by the new company in respect of the ordinary shares shall be at a less rate than $4\frac{1}{2}$ per cent per annum, then that portion to the debit of such account representing the capital on the said ordinary shares—namely, £1,200,000—shall be debited with interest only equal to the rate of dividend declared upon such ordinary shares for such half year.

(15) That if the assets of the old company ascertained as aforesaid do not realize a sufficient sum to extinguish the said assets-realization account, the dividends from time to time to be declared in respect of the said ordinary shares, or such portion thereof as the directors of the new company may from time to time decide, shall be retained and applied until the resulting deficiency be made up, and the directors of the new company may exercise this power before any deficiency be actually ascertained if such directors anticipate a deficiency; and in the event of such assets-realization account resulting in a surplus, the amount of such surplus shall be placed to the credit of a reserve fund in the new company.

(16) In the event of the supreme court deciding, at the time of sanctioning this scheme, that it would be fit and proper to exclude those of the creditors of the old company who are trustees or corporate bodies without the legal power to take up preference shares in the new company from the operation of clause 12 of this scheme, such creditors shall be entitled to the

deposit receipts of the new company as provided by clause 11 of this scheme, but for the whole amount of their claims, instead of for two-thirds thereof as therein provided.

(17) With the sanction of the supreme court given at the time of sanctioning this scheme, the new company may vary the terms of clauses 11 and 12 of this scheme with reference to those creditors of the old company who are creditors in respect of current accounts with the old company by increasing the proportion of their claims to be satisfied under clause 11 and decreasing the proportion of their claims to be satisfied under clause 12 of this scheme, or by paying the whole or any portion of the amount of any such current account to the extent of £100 to each such creditor, or by paying in full the amount of any bank draft issued by the old company.

(18) In the event of the preference shares in the new company being allotted to creditors or shareholders of the old company or to the public upon their voluntary application to such an extent as not to require the conversion of one-third of the claims of the creditors of the old company into preference shares in the new company in order to provide for the total number of 300,000 preference shares, then the proportion provided for in clauses 11 and 12 of this scheme shall be proportionately varied to such an extent as may be necessary to meet the case.

(19) Notwithstanding anything hereinbefore contained, in the event of the old company being compulsorily wound up in any place outside Victoria, all the creditors of the said company shall be at liberty to prove their claims in such compulsory winding up; and the dividends received by such creditors in respect of such proofs shall be deducted from their claims before they shall be entitled to the benefit of the provisions in their favor contained in clauses 11 and 12 of this scheme.

(20) The memorandum and articles of association of the new company as submitted herewith are hereby adopted.

(21) The supreme court may alter, modify, or add to this scheme as it may think fit and proper.

[Inclosure No 2.]

AN ACT TO MAKE BANK NOTES A FIRST CHARGE ON BANK ASSETS, AND TO TEMPORARILY ENABLE THE GOVERNOR TO DECLARE BANK NOTES TO BE A LEGAL TENDER, AND TO PROVIDE FOR THE RETIREMENT OF THE SAME DURING A LIMITED TIME AND UNDER SPECIAL CIRCUMSTANCES. (ASSENTED TO MAY 3, 1893.)

Whereas certain causes, operating without as well as within the colony of New South Wales, have subjected commercial interests temporarily to unjustified discredit and distrust, of which a possible consequence may be grave inconvenience to the public in relation to the facilities for trade and to the sufficiency of the circulating medium: Be it therefore enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the legislative council and legislative assembly of New South Wales in parliament assembled, and by the authority of the same, as follows:

Part I.—Permanent enactment—bank notes.

1. After the passing of this act, all notes payable on demand, heretofore or hereafter to be issued, circulated, or reissued in the said colony by any bank under authority of this or any other statute of the said colony in that behalf, shall, to the amount of the issue authorized, be a first charge on all the assets and property of that bank, being assets for the payment of debts or other obligations contracted or entered upon or due and payable in the said colony.

Part II.—Temporary enactments—proclamation by governor.

2. Save as provided by section 5, the enactments in part II of this act shall have force for the period of twelve months only from the passing thereof, and if, at the end of that period,

parliament be not in session, then until the commencement of the then next session of parliament, and for one month thereafter, but no longer.

3. The governor in council may, from time to time as he thinks fit, by proclamation under his hand and published in the Gazette and in at least three newspapers in the colony, declare that the notes payable on demand by any bank therein named and then or thereafter to be issued, circulated, or reissued within the said colony under any lawful authority in that behalf shall, during the period limited by the proclamation, be everywhere within the said colony a good and legal tender of money to the amount therein expressed to be payable.

Provided, that no proclamation shall be made unless the governor in council is satisfied that as between the bank and its creditors its assets exceed its liabilities by at least the sum of the paid-up capital and the reserved profits.

Provided, further, that the bank shall pay all such notes of its own issue in gold on presentation at its head office within the colony after the expiration of the period limited by any original proclamation under this section, or by successive proclamations thereunder if more than one, and the governor in council may require adequate security for the performance of this condition.

Provided, also, that no proclamation made under the authority of this section shall have force or effect beyond the time during which part II of this act continues and remains in force.

4. Upon publication in the Gazette as aforesaid, any proclamation made under this act shall, to the extent and during the period limited by the proclamation or by this act, have the force of law, notwithstanding any provision in any act, charter, or document whatever.

5. At any time within six months after the expiration of the period limited by any original proclamation under section 3 or by successive proclamations thereunder if there have been more than one, the colonial treasurer, on being satisfied that a bank note covered by any such proclamation has been duly presented for payment at the bank issuing the same and has not been paid, shall pay the same in gold to any bona fide holder, not being a bank, who may present the same for payment at the treasury.

6. Upon the request of the colonial secretary, the managing director, manager, or accountant of any bank shall make full and true answers to such written inquiries concerning the business and the assets and liabilities of the bank as the colonial secretary thinks fit to make for the purpose of the exercise of the discretion conferred on the governor in council by section 3 of this act, and shall verify the same by his statutory declaration.

Part III.—Supplemental.

7. In this act the word "bank" includes branch bank and agency, and means a company or corporation carrying on within the said colony the business of banking only. The expression "governor in council" means the "governor with the advice of the executive council."

8. This act may be cited as the "bank-issue act of 1893."

[Inclosure No. 3.]

AN ACT TO PROVIDE FOR THE MAKING BY THE COLONIAL TREASURER OF ADVANCES UPON CURRENT ACCOUNTS IN BANKS WHICH HAVE SUSPENDED PAYMENT; FOR THE ISSUE AND PAYMENT OF TREASURY NOTES IN CONNECTION THEREWITH, AND FOR MAKING SUCH NOTES A LEGAL TENDER; FOR THE REPAYMENT OF THOSE ADVANCES; FOR REGULATING TRUST ACCOUNTS IN THE SAID BANKS; AND FOR PURPOSES INCIDENTAL TO OR CONSEQUENT UPON THE ABOVE OBJECTS. (ASSENTED TO MAY 26, 1893.)

* * * * *

1. This act shall apply only to a bank which has, before or after the passing of this act, suspended payment temporarily with the view of reconstruction.

2. (I) The person appointed provisionally official liquidator of any such bank (hereinafter called the liquidator) shall, at the request of any person being a creditor of the bank, in respect of current account payable in this colony (hereinafter called the creditor), issue to that creditor a certificate under his hand in the form of the schedule to this act, certifying the amount due by the bank to that creditor on his current account or accounts at the time of the suspension of payment after deducting any sum or sums then accrued due to the bank from him in the same right, and such certificate shall, as against the bank only, be conclusive evidence of the facts stated therein.

(II) If the liquidator refuses or neglects to issue a certificate as aforesaid, the supreme court or a judge thereof may, upon the application of the creditor, make a rule or order directing the liquidator to issue to the creditor a certificate for the moneys appearing on the books of the bank to be due to the creditor as aforesaid.

3. Advances to such amount as he thinks fit, not exceeding one-half of the moneys so certified to be due to the creditor, may be made by the treasurer in treasury notes in either of the two ways next mentioned:

(I) The advance may be made to the creditor on his personal application lodged at the treasury before the reopening of the bank for business, or the opening of any bank incorporated for the purpose of taking over its business and assets, and on his depositing in the treasury the certificate, specially indorsed by him to the treasurer, together with a statutory declaration that he has not dealt with or charged the moneys certified to be due.

(II) The advance may be made to the liquidator on behalf of the creditor on deposit in the treasury by the liquidator of the prescribed authority from the creditor in that behalf, together with the certificate specially indorsed by the creditor to the treasurer and a statutory declaration by the creditor that he has not dealt with or charged the moneys certified to be due; and the advance shall be placed by the liquidator in the bank in trust for the creditor, to be held as provided in section 10.

(III) Upon making the advance the treasurer shall cause to be delivered to the creditor, or the liquidator on his behalf, an acknowledgment in the form prescribed that the treasurer holds the certificate as security for the advance, setting forth the names of the bank and of the creditor, respectively, the sum certified to be due, and the amount of the advance.

4. On deposit and indorsement of the certificate, the treasurer for the time being shall, while holder thereof, have all the rights of the creditor in respect of the moneys certified to be due. He shall be entitled to any shares and securities which may be issued in respect of the moneys certified to be due or any part of them by any bank incorporated for the purpose of taking over, on the winding up of the bank which issued the certificate, its business and assets. If the treasurer shall neglect or refuse to apply for or accept any such shares, the creditor shall be entitled to a transfer from the treasurer of all rights of the treasurer in respect of the shares on payment by the creditor of a proportion of the advance equal to the value of the shares. But any debt due to the treasurer on behalf of Her Majesty as holder of the certificate or as holder of any shares or securities so issued to him as aforesaid shall not, in respect of priority of payment, be deemed a crown debt.

5. The treasurer, while the holder of a certificate or of any shares or securities issued to him in respect of the moneys certified to be due, shall receive and pay into the consolidated revenue fund for the use of Her Majesty all dividends, interest, and other profits payable in respect of the moneys, shares, or securities.

He shall also receive all principal payable in respect thereof and pay the same into the consolidated revenue fund for the use aforesaid until the payments of principal equal the amount advanced on the security of the certificate. And he shall hold in trust for the creditor (subject to the provisions of this act) all principal received by him in excess of that amount.

6. (I) At any time within five years from the passing of this act the creditor or his personal representative, official assignee, or committee shall be entitled, on application to the treasurer, personally or by agent duly authorized, in the form prescribed, and on repayment of so much of the amount (if any) of the advance as then remains due, to have the certificate

delivered and indorsed back to him; and the shares and securities (if any) assigned and delivered to him, and the principal (if any) received and held for him in trust paid to him, by the treasurer, but without dividends, interest, or other profit.

(11) At the expiration of the said period, in default of such application, any shares or securities then held by the treasurer may be converted by him into money and, together with any principal moneys remaining in his hands, paid into the consolidated revenue fund for the use of Her Majesty.

7. The treasurer may, for the purposes of this act only, issue treasury notes to an amount not exceeding £2,000,000 in the form and manner prescribed and of the respective values of £1, £5, and such multiples of £5 as may be prescribed.

The notes shall be payable in gold on presentation at the treasury upon the expiration of five years from the passing of this act, or within such shorter time as the governor, with the advice of the executive council, may notify by proclamation in the Gazette; but no note shall be so payable unless presented at the treasury before the expiration of six years from the passing of this act.

8. During the said period of five years a tender of any treasury note issued under this act shall be everywhere within the colony a good and legal tender of money to the amount named therein.

9. During each month the treasurer shall withdraw from circulation and cancel treasury notes to an amount equal to the moneys received by him during the month next preceding in reimbursement of advances made under this act, and shall publish in the Government Gazette every month a statement of the amount of treasury notes outstanding on the first day thereof, together with a statement of the amount of moneys received in respect of the said notes during the preceding month.

10. The liquidator of any bank to which this act applies may, in the course of his duty as liquidator and as representing the bank, receive the moneys of any person and place and hold them in the bank, in trust for the person on whose behalf they were received. He shall not lend or invest the said moneys, but shall pay them out on the written request, in the form of checks or orders, of the person on whose behalf he has received and holds them, or of bills or notes accepted or made by that person, domiciled at the bank, and maturing at or subsequently to the receipt by him of the said moneys.

Moneys deposited in trust by the creditor after the suspension of payment in any bank to which this act applies shall be deemed to have been deposited with and to be held by the liquidator in accordance with this section.

In the event of the winding up of the bank, moneys held by the liquidator under this section or section 3 shall not be assets in the winding up.

11. The governor, with the advice of the executive council, may make regulations for the purpose of carrying this act into effect.

12. In this act the word "bank" includes branch bank, and means a company or corporation carrying on in this colony the business of banking only at the time of suspending payment; the word "treasurer" means the colonial treasurer; and "prescribed" means prescribed by regulations made under the authority of this act.

13. This act may be cited as the "current-account depositors' act of 1893."

SCHEDULE.—"CURRENT-ACCOUNT DEPOSITORS' ACT OF 1893" (SECTION 2).

Certificate of amount due on current account.

I [name], the liquidator of the [name of company or corporation], certify that at the time of the suspension of payment by the said bank there was due to [name of creditor] from the said bank the sum of £—— on his current account.

[Signature of liquidator and date.]

JUTE INDUSTRY OF RUSSIA.

No jute is grown in any part of the Russian Empire, although efforts are made by the Government to induce the farmers in the south of Russia, and especially in the zone of the black lands, to interest themselves in this important branch of agriculture. In fact, Prince Massalski, of the department of agriculture, at St. Petersburg, has made a special study of this question and has written an interesting brochure on this subject, giving the methods of cultivation adopted in other countries, especially in Bengal, together with the requirements of soil and climate.

Jute is brought into Russia in the raw state and in the manufactured state in the form of bags. Until 1881 jute was imported free of duty. In that year a tax was laid on it of 40 copecks gold per pood (36 pounds); on August 19, 1890, the duty was increased 20 per cent, and since July 1, 1891, the duty has been 60 copecks gold per pood.

The imports of raw jute during the period from 1869 to 1892, inclusive, were as follows:

Years.	Quantity.	Value.
	<i>Tons.</i>	<i>Roubles.</i>
1869.....	345	38,000
1870.....	236	26,500
1871.....	582	65,000
1872.....	673	54,500
1873.....	527	43,500
1874.....	1,418	195,000
1875.....	1,218	196,000
1876.....	709	59,000
1877.....	182	18,000
1878.....	473	61,500
1879.....	491	77,500
1880.....	527	66,500
1881.....	273	34,000
1882.....	782	53,000
1883.....	1,327	78,500
1884.....	655	54,000
1885.....	1,273	102,500
1886.....	3,382	122,500
1887.....	7,164	688,500
1888.....	8,745	864,500
1889.....	10,873	1,011,000
1890.....	8,255	618,500
1891.....	11,618	911,000
1892.....	6,291	548,500

The duties during the last three years were as follows: In 1890, 193,727 gold roubles (\$149,169.79); 1891, 309,581 gold roubles (\$238,377.37); 1892, 207,570 gold roubles (\$159,828.90).

Jute bags until 1881 paid a duty of 30 copecks (15 cents) per pood; on January 1, 1881, 10 per cent was added to that duty; on June 1, 1881, the

duty was increased to 2 gold roubles (\$1.54) per pood, and since 1891 to 2.60 gold roubles (\$2.02) per pood.

The import of jute and gingham bags, as well as of coarse jute packing materials, is represented in the following table:

Years.	Quantity.	Value.
	<i>Tons.</i>	
1869.....	927	\$76,500
1870.....	2,291	188,500
1871.....	4,527	373,500
1872.....	2,800	686,500
1873.....	5,400	955,000
1874.....	10,691	1,848,500
1875.....	6,091	770,500
1876.....	7,182	797,500
1877.....	10,255	1,765,500
1878.....	14,018	2,872,000
1879.....	12,927	2,138,500
1880.....	13,455	2,170,500
1881.....	9,455	1,713,000
1882.....	3,927	522,500
1883.....	3,127	682,500
1884.....	4,236	930,500
1885.....	5,655	1,150,000
1886.....	5,455	1,191,500
1887.....	2,600	404,500
1888.....	2,982	367,000
1889.....	1,964	249,000
1890.....	909	111,500
1891.....	236	32,500
1892.....	164	21,500

The preceding table shows the import of jute and gingham bags together. In order to explain what relation these two materials hold to each other, the following data are given:

Years.	Jute bags.	Gingham bags.	Total.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
1885.....	3,800	1,855	5,655
1886.....	3,236	2,219	5,455
1887.....	1,818	782	2,600
1888.....	2,200	782	2,982
1889.....	1,855	109	1,964

The duty on jute and gingham bags for the last three years was as follows: In 1890, 121,743 gold roubles (\$93,742.11); 1891, 33,031 gold roubles (\$25,433.87); 1892, 23,703 gold roubles (\$18,251.31).

Other jute manufactures, as, for example, mats and carpet strips, are not specified in the custom-house statistics, but are shown together with those made from Manila hemp and other like materials. The import of these goods in general is very small, as follows: In 1890, 109 tons, valued at \$32,000; 1891, 73 tons, valued at \$31,000; and in 1892, 36 tons, valued at \$7,000. The duties on these goods were as follows: In 1890, 22,502 gold

roubles (\$17,326.54); 1891, 20,057 gold roubles (\$15,443.89); 1892, 5,869 gold roubles (\$4,519.13).

Jute in the raw state is imported principally from the following countries:

From—	1889.	1890.	1891.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Great Britain.....	5,331	5,938	6,921
Germany.....	107		2,719
United States.....	1,138	2,150	1,040
France.....	218		298
Turkey.....		94	

Jute and gingham bags are imported principally from the following countries:

From—	1889.	1890.	1891.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Great Britain.....	513	496	150
France.....	10	87	49
Germany.....	37	32	47
Austria-Hungary.....		15	19
Turkey.....		17	
Belgium.....		7	

Mats and carpet strips are imported almost exclusively from Great Britain and Germany; in 1891 the former sent to Russia 72 tons and the latter 17 tons.

J. M. CRAWFORD,

ST. PETERSBURG, July 12, 1893.

Consul-General.

COMMERCE OF PALERMO.

Both imports and exports have increased during the year ended June 30, 1893, over those of the preceding year, imports in a much larger proportion than exports. The total increase of the former was \$1,101,736.22 and of the latter \$31,598.85.

INCREASED TRADE WITH THE UNITED STATES.

During the year under consideration imports from the United States increased \$1,841,167.19 and exports \$443,929.50. An important item of this increased importation from the United States is that of fruit-box shooks, due to the act of Congress of 1890 providing for the free entry of fruit-boxes made of shooks of the manufacture of the United States. These boxes are now made almost wholly of the American shooks, whereas the Austrian was formerly used.

Of a total exportation of green fruits from Palermo during the year, amounting to \$2,496,083, the shipments to the United States amounted to

\$2,376,929. This shows how important the American market is at present to Sicily, and what a field yet exists for our own fruit-growers to supply. That the day is not far distant when Florida and California will be able to supply the orange demand is demonstrated by the constant decrease in the exportation of oranges, which was last year only half that of the preceding year. Vast numbers of orange groves here are consequently being sup-
planted every year by the lemon.

A tabulated statement is presented of the number of boxes of oranges and lemons shipped from Palermo to the United States during the fruit season ended September 30, 1892, showing the amount to have been 232,409 boxes of oranges and 1,360,848 boxes of lemons, a total of 1,593,257 boxes.

Oranges and lemons exported from the port of Palermo to the United States during the twelve months ended September 30, 1892.

Months.	Baltimore.		Boston.		New Orleans.	
	Oranges.	Lemons.	Oranges.	Lemons.	Oranges.	Lemons.
	Boxes.	Boxes.	Boxes.	Boxes.	Boxes.	Boxes.
October				4,616		
November		1,159		1,917		6,657
December			7,185	4,144	956	26,789
January	330	3,933	12,433	23,605	1,294	44,266
February	36	1,991	12,872	21,653	1,821	34,920
March	1,123	6,337	13,061	17,726	1,750	51,817
April			16,996	19,212	1,651	38,305
May			8,992	33,408	515	30,537
June			3,626	19,092		
July		5,241	956	24,514		
August						
September						
Total	1,489	18,661	76,121	169,887	7,987	232,291
Total for preceding year	5,975	5,216	165,804	173,944	35,567	220,364

Months.	New York.		Philadelphia.		Total.	
	Oranges.	Lemons.	Oranges.	Lemons.	Oranges.	Lemons.
	Boxes.	Boxes.	Boxes.	Boxes.	Boxes.	Boxes.
October		5,906				10,522
November		20,403		2,800		32,936
December	7,534	41,719	8,494	8,099	24,169	80,751
January	12,804	50,566	2,406	12,609	29,267	134,979
February	15,399	54,977	2,304	11,275	32,432	124,816
March	39,962	107,308	846	3,995	56,742	187,183
April	27,755	79,733	2,223	9,738	48,625	146,988
May	19,364	144,033	290	10,179	29,161	218,157
June	6,991	179,485	388	19,715	11,005	218,252
July	52	121,055		8,082	1,008	158,892
August		36,309				36,309
September		11,023				11,023
Total	129,861	852,517	16,951	86,492	232,409	1,360,848
Total for preceding year	278,433	808,412	83,290	84,163	569,069	1,292,099

Boxes made of the same shooks and of the same dimensions are used in transporting fruit from the gardens in the country to the packing houses in the city, and, being thus employed, they become so damaged by carting and rough handling that boxes so damaged are never used in the export trade; therefore, the number in the above table represents only about two-thirds of the number actually employed in the fruit trade. The value of these boxes at 15 cents per box would be \$358,482.75.

AGRICULTURAL PRODUCTS.

Sicily does not produce sufficient agricultural products for her own consumption, and is therefore necessarily an importer. That her production has assumed proportions of any importance whatever is much more largely due to a rich soil and favorable climate than to the manner of cultivation.

Her wheat crop last year was below the average, and the condition of this year's crop is even worse. She imports annually large quantities of wheat from Egypt and the Black Sea countries, which amount will this year be augmented. Yet of the \$750,000 worth of wheat imported last year none came from the United States. It would appear that with little effort a market for American wheat might be established here, especially in view of the volume of fruit shipped to the United States and the number of steamships engaged in the trade that would gladly make a cheap freight rate so as to return with cargoes rather than in ballast, as many of them do.

Sicily consumes but little oats, which are produced on the island, and corn is not grown here; neither is it used as food for stock, nor in any of its manufactured forms for table use.

IMPLEMENTS.

Agriculture is yet in its most primitive state throughout the island. No new inventions, no labor-saving machines, have found a place in Sicily, nor is any appliance known that was not in use generations—in fact, ages—ago. Wheat and oats are harvested, principally by women and children, with the sickle, and the grain is tramped out by horses and donkeys. There is not a reaping, mowing, or thrashing machine in this entire district. The plow used by the farmer to-day, incredible as it may seem, is the wooden stick, the round iron point, the long beam extending from the point and resting on a yoke across the necks of donkeys. In Sicily, however, the plow divides honors with the hoe, as only about one-half of the agricultural area is plowed, the other being broken by hand with the hoe. This hoe, with blade 10 to 12 inches long by 5 inches wide and heavy handle about 2 feet long set at an angle to the blade of about 45°, is the universal work tool of the Sicilian. With it the farmer's land is broken and crops cultivated. Irrigation and ditching, as well as street and road construction, are done with this crude implement. That there is dire necessity for better farm implements and for such tools as the shovel, spade, fork, and wheelbarrow is most evident; but that their introduction here is probable, or that these people could be induced to discard the old and take up new tools, is extremely doubtful.

OPENING FOR AMERICAN MANUFACTURES.

There is believed to be an opening here, however, for American manufactures of various kinds, such as threads and certain cotton textiles, lamps, small stores, hardware, office furniture, and stationery, provided color, weight, size, etc., together with the peculiarities of the trade and business customs, are considered and catered to. Three-fourths of the manufactured articles bought in this market are supplied by Germans, for the reason that both American and English manufactures are too heavy and expensive. The German learns this by coming here and ascertaining what is most salable and then manufacturing his wares to meet the requirements of the market. Yet in many instances he represents his article to be of American manufacture or that it is made after American designs. That such representations aid him in his sales fully demonstrates the fact that the people here recognize the superiority of American manufactures, and it is believed that this would facilitate their introduction; but to avail ourselves of this market its peculiarities and conditions must be known, and this can only be accomplished by sending capable representatives here. The statement should be emphasized that price lists and circulars sent to addresses obtained from consuls are never productive of good results.

HORACE C. PUGH,
Consul.

PALERMO, *July 10, 1893.*

NOTES.

Pilotage at Callao.—The Department of State has received from Consul A. J. Daugherty a notification, which he wishes served on all American shipmasters, that no payment has to be made to any pilot for services rendered in the Bay of Callao unless his services have been voluntarily called for.

Use of Indian Corn in the German Army.—Under date of August 2, 1893, Consul-General Edwards, of Berlin, reports to the Department of State that the German minister of war has ordered the military authorities to use Indian corn mixed with oats in making up the rations for the army horses. This will lead to heavy importations of American corn.

A Model Farm in Salvador.—Under date of July 25, 1893, Vice-Consul Dawson, of San Salvador, reports that the Government of Salvador has established an agricultural school, or model farm, which is soon to be stocked with cattle, horses, hogs, and fowls of selected races brought from the United States. The farm is situated in the suburbs of that city.

Railway Construction in Salvador.—Under date of July 25, 1893, Vice-Consul Dawson, of San Salvador, reports that the American citizens Frank M. Crawford and A. J. Moisant, both from San Francisco, have made propositions to Congress for the construction of a railroad between the seaport of La Libertad and that city. It appears, so far, that Moisant's proposal will be accepted on the basis of an outlay of \$555,000, on which the Government guaranties interest at 6 per cent.

American Fodder for Belgium.—Under date of July 29 the consul at Ghent advises the Department of State that there is likely to be a large import into Belgium this year of American bran, pollards, sharps, and middlings, heretofore imported from the River Plate, British India, and Russia, and as the same conditions, in regard to drought, which have prevailed in France and other countries prevail also in Belgium, the indications are that the imports of American hay will also be very large. At the date of writing hay was selling in the Ghent district at the rate of \$27 per ton of 2,200 pounds, while in other parts of the Kingdom, notably in Brabant, it was much higher.

Concession to an American Steamship Company.—Under date of July 28, 1893, Vice-Consul Dawson, of San Salvador, reports as follows :

I have the honor to inform you that the Executive issued yesterday a decree granting the North American Steamship Navigation Company, of San Francisco, whose steamers are running from that port to Panama and touching Central American ports, exemption from all port charges and taxes to their vessels touching Salvadorean ports, in consideration of said company carrying the mails of this country without any remuneration. This arrangement is to last one year from this date.

Trade of Tuxpan.—Under date of July 10 Consul Drayton, at Tuxpan, reports that the exports from his district for the June quarter amounted to \$286,388, as against \$444,240 for the previous quarter. The causes of this decline, which can not be wholly charged to the dullness of the season, he attributes to the great variations in rates of exchange and heavy taxation. The importation of lumber during the June quarter increased. There is a duty of \$1 per 1,000 feet on dressed lumber. The consul mentions an export duty of about \$1.36 per 100 pounds on coffee to go into effect July, 1893.

Tax on Playing Cards in Austria.—Under date of July 25, 1893, Consul-General Judd reports, in answer to an inquiry: As far as my observation goes, in the very short time that I have been here, card-playing is not indulged in to any great extent.

On some packs of cards the tax is 15 kreutzers (about 6 cents), on others 25 kreutzers (10 cents), and on others even more, according to quality and number of cards in packs, some packs containing thirty-two and others fifty-two cards. From 1887 to 1891 the revenue raised by taxation on cards was as follows: In 1887, 272,562 florins; 1888, 272,060 florins; 1889, 279,796 florins; 1890, 302,714 florins; and in 1891, 310,188 florins.

Canadian Exports to the United States.—On July 27, 1893, Mr. Harry P. Dill, commercial agent at Palmerston, Ontario, reported as follows :

The exports from this district to the United States for the year ended June 30, 1893, amounted to \$575,140, of which lambs exported to the Buffalo stock yards for distribution constituted nearly one-half, being \$269,000.

A shortage in the apple crop of the United States last season caused an unprecedented demand for the Canadian fruit, and there were shipped from this district 150,000 bushels at an export value of \$106,783. Return shipments from the United States may now be looked for, as the apple crop for this season is a total failure in this district.

Fresh fish is the next largest article of export to the United States, amounting to \$84,368. The fish is caught in Lake Huron and Georgian Bay and shipped from Southampton and Winston under control of the Buffalo Fish Company.

Immense quantities of lumber pass through this consulate to the United States, but the showing in the export list is small, as the shippers and dealers regulate this trade so that no single shipment amounts to \$100, thereby avoiding the necessity of securing a consular certificate.

Brazilian Drafts on American Banks.—Consul-General Townes, of Rio de Janeiro, under date of July 20, reports as follows:

All the banks in this city, during the past month, have been rigidly enforcing the rule that all drafts drawn on any bank in the United States shall be made payable in gold coin. As nearly all exports from this country to the United States are paid for by drafts on London, it does not appear, on the surface, that the enforcement of this rule materially affects the gold balance of the United States, but it must be borne in mind that in the final settlement of these transactions London will doubtless demand payment in like coin from the consignees or purchasers.

Banks of Salvador.—Under date of July 28, 1893, Vice-Consul Dawson, of San Salvador, reports as follows:

I beg to report that a branch office of the Bank of Nicaragua has been lately established in this city and is now doing business under the same conditions as the other banks. These are the International, founded in August, 1880, with a capital of \$1,800,000 (silver); the Occidental, founded in Santa Ana in 1889, with a capital of \$1,000,000 (silver) and a branch office in this city; and the Salvadoreño, founded in 1892, with a capital of \$1,000,000. Besides these, there is the banking firm of Messrs. Blanes & Frigueros, founded in 1835, and whose capital is estimated at \$1,500,000.

Congress granted in 1892 several concessions in favor of a mortgage bank, which ought to have been founded by this time, but the probabilities are that it will not be established.

The mint of this city is actually recoinng silver at the rate of \$5,000 a day.

The exchange is to-day as follows: San Francisco and New York, at sight, 97 per cent; London, sight, 93 per cent; Paris, sight, 91 per cent; Hamburg, sight, 89½ per cent. The Government premium rate on gold is actually 75 per cent.

East African Cable and Telegraph.—Consul Hollis, at Mozambique, informed the Department under date of June 26, 1893, that a concession had just been given by the Portuguese Government to the Zambesi Company, a Lisbon corporation (in which many Londoners have capital invested), to lay and operate a submarine telegraph line between this port and Quilimane, 300 miles distant. One of the terms of the concession is that the line is to be completed in eighteen months.

This line will probably be worked in conjunction with the lines of the Eastern Telegraph Company and the land lines, owned and operated by the Portuguese Government, running between Quilimane and Tete, a distance of about 325 miles. The Zambesi Company has also been given a concession to construct several land lines of telegraph, the first of which is to run between Tete and Chicoo, 80 miles; the second from Tete to Missale, 145 miles; the third from Chicoo to Zumbo, 140 miles. The company is also authorized to construct branch lines to Nyassaland, in British Central Africa. All these lines have to be finished within eighteen months. At the end of that period, if the holders of these concessions faithfully carry out their plans and complete all these lines, the southern part of Nyassaland and all of the Zambesi Valley under Portuguese rule will be placed in telegraphic communication with the outer world.

Petroleum in France.—On July 3 Mr. Eustis, United States ambassador to France, notified the Department that the Government bill establishing a new petroleum tariff was voted on June 30. It provides for the application to petroleum of a general and of a minimum tariff. The duty under the general tariff remains at the old rate—18 francs per 100 kilograms of crude oil and 25 francs on the refined. Under the minimum tariff it is reduced to 9 francs for the crude and 12.50 francs for the refined. This law authorized the Government to negotiate with Russia for the concession to that country of the minimum tariff and to make temporarily the same concession to other nations. On July 12 the ambassador reported the publication of the treaty arrangement with Russia and of a decree of July 7 extending temporarily to the United States all the advantages assured to Russia. This decree affects imports from the United States after July 12, 1893. The commercial convention between France and Russia has been printed. It was transmitted to the Department by the United States ambassador at Paris in dispatch No. 31, of July 20, 1893.

Trial by Jury in Austria.—Under date of July 25, 1893, Consul-General Judd, in answer to an inquiry, reports as follows:

In Austria the right of trial by jury is secured only in criminal cases, and even these are limited to a certain extent.

According to the publication of *Reichs Gesetz Buch* (Imperial Law Book) 119, of May 23, 1873, regulating the penal law, there are to be tried by jury: (1) All the crimes and offenses committed by printed publications; (2) all the crimes that might be punished by more than five years' imprisonment; (3) all the offenses committed by disparaging the decrees of the authorities, by insurrection (section 200 of the penal law; articles 3 and 4 of the law of December 12, 1862, R. G. B., 1863), and by provoking hostilities (section 302, penal law).

Each magistracy of every captaincy of a district is to keep a register of every male person qualified to serve as a juror. This register is called the *Urliste* (original list), and is transmitted to the captain of the district. The names of the persons in the *Urliste* who are most suitable to serve as jurors are pointed out by the captain of the district, and are all forwarded by him to the president of the court of the first instance and at whose seat only the jury may assemble.

The president calls together a board of seven persons, who make out the *Jahresliste* (list of jurors for the year). The *Jahresliste* is composed of (1) the names of the principal jurors, and (2) those of the supplementary jurors. A fortnight before the beginning of the session of the jury court, there are selected from the *Jahresliste* thirty-six principal and nine supplementary jurors; the list of these jurymen is called the *Dienstliste* (list of service). They serve as jurymen during the session of the court, and can not be summoned to serve as jurors again before the end of the calendar year succeeding that session.

The jury is composed of twelve jurors.

The principal question placed before the jury is whether the accused has committed the facts on which the accusation is founded. Their verdict upon the questions of fact is conclusive upon the court.

For a verdict both of "found guilty" and "found guilty of aggravating facts" a majority—at least two-thirds of the votes—is indispensable. In all other cases a plain majority of the votes is sufficient. An equal cast of votes decides in favor of the accused.

Prohibition of Exports of Austrian Fodder.—Under date of July 22, 1893, Consul-General Judd, of Vienna, reports:

After long deliberations, the Hungarian ministry has at last agreed with the Austrian Government to forbid the further exportation of hay, straw, and other fodder, the law to go into effect at once. The Austrian Government desired that the law should remain in effect for a specified time, namely, up to next year, but to this proposition the Hungarian ministry refused to agree; on the contrary, they distinctly reserved the privilege to annul it at their own pleasure.

The two principal reasons which led to the passage of the law was: (1) In the calculations for furnishing fodder to the army the purchase price of a meter centner of hay (221½ pounds) was calculated at 3.75 florins; at present the price is 4.60 florins, with decided tendencies to still greater advance, creating an enormous deficit in the army budget; and (2) it was feared that should the immense increase of the exportation continue for the balance of the year, the supply for later home use may prove insufficient. In mercantile circles here, the above law is in the greatest disfavor, it being claimed that should a scarcity later on arise, the deficiency could be easily replaced by the abundant crops in Russia and Servia.

The amount of straw exported from this Empire from January 1, 1892, to June 1, 1892, was 49,594 meter centners; for the same period in 1893, 147,793 meter centners. Hay, for same period in 1892, 154,199 meter centners, and in 1893, 347,462 meter centners.

Commerce of Japan in 1892.—The following article, translated from the Review of the Geographical Society of Tours for July, 1893 (pp. 86, 87), is of so much interest that it is given a place here.

The part taken by Japan in the commerce of the world is rapidly increasing. The increase during the decade which has just expired was 150 per cent.

Description.	1883.	1892.
	<i>Francs.</i>	<i>Francs.</i>
Exports.....	145,000,000	365,000,000
Imports.....	114,000,000	285,000,000
Total.....	259,000,000	650,000,000

Among the articles exported, silk holds the fourth place, with 160,000,000 francs; next tea, with 30,000,000 francs (the only customers are Canada and the United States); metals, with 21,000,000 francs; and rice, with 16,000,000 francs (the average crop is 200,000,000 francs). One article which causes surprise is matches (an imitation of English and German matches). They are exported to the value of about 8,000,000 francs to China, Malaysia, and, it is said, even to England.

It is to be also noticed that in the custom-house lists are pottery wares and porcelains (amounting to 6,000,000 francs), lacquered ware (to 2,000,000 francs), carved ivory, paper, etc., the amount of which increases a little every year, as well as that of "kanten" (vegetable glue)—a name given to a species of gelatin extracted from a fucus which is much used in Europe for the preparation of cloths and even for the manufacture of sweetmeats.

An article the exportation of which is rapidly increasing is coal, as shown by the following figures: In 1888, 4,000,000 francs; in 1892, 10,000,000 francs—to the great detriment of Australian coal. This ascending scale may, however, be arrested by the competition of the Tonquin coal, which has just made its appearance on the market. In the order occupied

by the different nations in the table of exporting commerce France stands third, with 87,000,000 francs; Germany is credited with only 27,000,000 francs.

The imports comprise a variety of articles, chiefly: Sugars, 38,000,000 francs; spun thread and (other) cotton articles, 48,000,000 francs; raw cotton, 49,000,000 francs.

Japan is becoming industrial. Numerous cotton spinning factories particularly have been established there within the last three years, so that the entries of raw cotton have risen from 3,000,000 francs in 1883 to 49,000,000 francs in 1892; and, as a result, the importation of cotton manufactures has fallen from 54,000,000 francs in 1888 to 22,000,000 francs in 1892, to the injury of the English manufacturers.

Within a few years, beyond a doubt, Japan will become a formidable rival of the United States and England in China, Korea, and Malaysia.

The two most important commercial ports of Japan are Yokohama and Kobe.

San Salvador.—On July 17 and 18 Mr. G. J. Dawson, vice-consul at San Salvador, furnished the Department the following items of interest:

Salt, etc.—Congress on July 11 declared free of all duties and taxes common salt, salt beef, corned beef, or beef preserved in any manner, packed in barrels or otherwise.

Fertilizers.—All natural or artificial fertilizers were, by the same decree, placed on the free list.

Foreign gold coins.—The Government on July 15 decreed that the gold coins of Germany, Great Britain, Belgium, Chile, Spain, France, Greece, Italy, Mexico, Peru, Switzerland, and Venezuela should be received at par with Salvadorean gold, and that American gold should have the following values in Salvador gold: Twenty-dollar piece, \$21; ten-dollar piece, \$10.50; five-dollar piece, \$5.25; one-dollar piece, at par.

Duties.—It was also decreed that from October 20, 1893, importers should pay 15 per cent of duties in gold.

Government loan.—On July 13 the Government published the project of an internal loan of \$1,000,000 (silver), offering to pay a premium of 10 per cent and interest at the rate of 12 per cent per annum and to issue as a guaranty bonds redeemable with a new tax of 10 cents on each bottle of rum sold in the country to the amount of one-half, the other half redeemable with 10 per cent of the import duties.

American contracts.—Messrs. Burrell & Crawford, of California, have obtained a contract to build a steel bridge over the Lempa River on the high road from San Vincent to San Miguel to cost \$200,000. Messrs. McIlvaine & Nanne, of the United States, have contracted to build for the Government infantry barracks and a custom-house at Acajutla.

Tramway concessions.—At the recent extraordinary session of Congress the Executive was empowered to grant concessions to build tramways in the principal streets of San Salvador.

BUILDING AND LOAN COMPANIES

IN THE

UNITED KINGDOM AND AUSTRALIA.

CIRCULAR.

On September 16, 1892, the Department sent to the consular officers of the United States in the United Kingdom the following circular letter :

The Department has been requested to secure, through your good offices, statistics relative to building and loan companies in the United Kingdom, for the use and information of similar organizations in the United States. The information desired by the American organizations covers the systems and workings of the British companies, their capital, stability, and usefulness, together with such other statistics as, in your opinion, may be of profitable use to our home companies. If any failures of British building and loan companies have occurred in late years, a statement of the cause or causes of such failures and their extent and effects would be of practical interest.

You will, therefore, at your earliest convenience, transmit reports hereupon to the Department.

UNITED KINGDOM.*

ENGLAND.

BIRMINGHAM.

BUILDING SOCIETIES ACT.

Birmingham has been appropriately called the home of building societies. For nearly fifty years they have proved an attractive form of investment for her artisans, a fair proportion of whom have by such means acquired homes. All these societies are regulated by the building societies act of 1874,† in which all previous laws on the subject were consolidated. This act‡ and its amendments provide for the incorporation of the societies; the limiting of the liability of members; the borrowing of money; the formulation, registration, and alteration of rules; the liability of officers, the punishment of fraud, the dissolution of the societies, the settlement of disputes by arbitration, for audits, and for the release or satisfaction of mortgages.

TERMINATING SOCIETIES.

The general operation of terminating societies mentioned in the act may be thus briefly outlined: A number of persons organize a society and subscribe to a certain number of shares. Upon every share a uniform periodical subscription is payable throughout the entire continuance of the society, the object in view being its continuance until the amount of subscriptions thus paid in is sufficient to create the fund out of which the society will be enabled to give each member the sum provided for by its rules at the commencement. For example: It may be proposed to close a society whenever the accumulated fund is large enough to give to the members £70 upon each share held by them, and that the monthly subscriptions shall be 7s. 6d., or £4 10s. per annum. When by these means the society has on hand, say, a sum of £70, it will be loaned to one of the members on mortgage. Thereafter he must pay an increased monthly subscription of 13s. 6d. in place of the former 7s. 6d. as long as the society is in operation. Assuming that it began January 1, 1882, and that each member paid 7s. 6d. per month, or £4 10s. per annum, for three years, each would have paid in by January 1, 1885, £13 10s. 6d. If he obtained his loan and paid the increased subscription of

*Some of the consults transmitted annual reports of the directors and printed rules of the societies mentioned by them. These are not published herein. They have been placed on file, however, in the Bureau of Statistics of this Department.

†For this act and its two amendments of 1874 and 1877, see Appendix.

‡Copies of this law can be obtained at a cost of about 2s. by addressing Spottiswoode & Co., Queen's printers, London, or any law stationer.

13s. 6d. per month, or £8 2s. per annum, he would by January 1, 1892, have paid in £56 14s., and altogether £70 4s. 6d.

In some societies the supposed future value of shares is advanced; and members desiring it advanced have the option, at a stated meeting, to outbid each other upon the amount of premium or bonus they may be willing to pay for this accommodation, the highest bidder obtaining the loan.

The date of membership must be uniform with that of the incorporation of the society. Parties desiring to become members at any subsequent date can do so only after making a "back payment" equivalent in amount to the total subscriptions paid in by original members up to that time, so that all may stand upon a similar footing.

THE BOWKETT, OR BALLOT, SOCIETIES.

The Bowkett terminating societies, named after their founder—Dr. Bowkett—create a fund by means of weekly subscriptions and then advance money to members by a ballot or lottery, without interest, the loan being subsequently repaid in quarterly installments. This ballot or lottery is at times managed in the following manner: The names of members are written upon slips or ballots, these are deposited in a hat or box, and any passing boy or girl is brought in at random from the street to make the drawing. Suppose, for example, that 100 members each pay in 9½d. every week, or £2 1s. 2d. per annum. Leaving the 1s. 2d. per capita to pay current expenses, which would probably suffice, there would be at the close of the year £200 to loan. This is drawn for by lottery as described and loaned to the member to whom it is so awarded, without interest, provided he expends it upon property approved by the committee of management and repays it in the quarterly amounts agreed upon—say at the rate of 10 per cent for ten continuous years. Should he fail to do either, he is liable to proceedings under foreclosure.

Ultimately each member receives back the full amount of his subscriptions, the principle involved being that he loans to the society a small sum of money annually for a long time, while the society loans him a large sum for a long time.

There is a marked difference between permanent and terminating societies. In becoming a member of the latter class one must do so at the time of incorporation or pay the full amount of back subscriptions, while in the former one may become a member at any time without making such payment.

FREEHOLD LAND SOCIETIES.

Others, termed freehold land societies, do not limit their operations to loaning money for the purchase of homes, but receive subscriptions upon the usual building-society plan, and with the fund so acquired purchase an estate or tract of land in the suburbs and cut up or "plat" it into lots of dimensions to suit members. To the purchase money of each lot is added the proportion for street improvement, etc., and cost of title papers. Mem-

bers desirous of buying lots must first enroll their names. Choice of location is determined by priority or ballot. A larger or smaller lot is thus secured at low figures. Should a member not have ready cash to complete his purchase, his allotment or choice of ground is not then conveyed to him, but stands upon the books in his name as if the purchase money had been loaned by a building society; and when sufficient periodical payments—either weekly, monthly, or quarterly, as agreed upon—have been made to cover principal and interest, it is conveyed to him without additional charges.

WORKINGS OF THE SOCIETIES.

All societies have printed rules approved by the registrar of building societies, in London, from whom a certificate of incorporation is obtained. The managing officers are usually a secretary, a solicitor, a committee of management, and also a board of directors or trustees, who have in charge all title papers, deeds, securities, etc.

The chairman of the board of directors is practically president of the society. The secretary generally acts in the capacity of treasurer, disbursing all moneys by checks, which, to be valid, must be signed also by two members of the board of direction.

Title papers, securities, etc., belonging to the society are kept in boxes in the bank where its deposits are made. Each box usually has several locks of different patterns, so that no one individual has it in his power to remove any portion of its contents without the knowledge of his colleagues. The affairs of the society are managed upon whatever plan is decided to be best for its interest by a majority of members and adopted at the general and annual meetings. Fines are imposed for noncompliance with rules or default in payment of subscriptions, and these are added to the fund.

INTEREST ON DEPOSITS.

Some societies receive numerous deposits, amounting in the aggregate to many thousand pounds, from parties who are not members, but to whom the prospect of a larger rate of interest than common is an inducement. When the stability of a society is questioned or becomes a subject of public discussion, these depositors generally hasten to draw out their money, a "run" ensues upon its cash resources, and suspension may result.

CAUSE OF FAILURES.

During the past summer several established and apparently prosperous societies in London and elsewhere suspended payment. The trouble appears to have been precipitated by the compulsory winding up in September last of the affairs of the London and General Bank upon petition of a creditor to whom it owed £780. Subsequent facts indicated this institution to have been more of a money-lending establishment than a legitimate bank. It was also termed "an auxiliary of building societies." This bank began business in 1882 with a capital of £1,000,000 in shares of £5 each.

The annual dividends up to 1892 ranged from 5 to 6½ per cent. In June last the balance sheet stood :

Deposits.....	£282,000
Advances :	
Bills discounted.....	183,000
Loans.....	346,000
Total	529,000

The directors claimed that the assets would, in a reasonable time, realize sufficient to pay all creditors in full and leave a surplus. This is doubtful.

The suspension of the London General was quickly followed by that of the Liberator Building Society, a natural sequence, as the affairs of the two institutions had been intermingled for years. Next in order came the suspensions of the House and Land Investment Company (which had been paying 8 per cent to shareholders and 6 per cent to special-term depositors), the London Provident Building Society and Bank, and the London Commercial Deposit Permanent Building Society. The embarrassment of the two last, however, proved only temporary, and they have resumed business.

The widespread distrust occasioned by these failures led to an exciting "run" upon the Birkbeck Bank. For three days the entrance and immediate vicinity were crowded by an anxious throng of men and women—tradesmen, school-teachers, clergymen, typewriters, clerks, and country people. In this little time over £1,000,000 in deposits were withdrawn. Fortunately this bank, an old-established, conservative, and solid institution, was enabled to bear the strain. High honors have since been awarded to the manager—Mr. Francis Ravenscroft.

The failure, in July last, of the Kent and Surrey Building Society, whose chief agency was at Woolwich, was due to the long-continued embezzlements of its secretary and treasurer—George Bryceon. His thefts covered a period of twenty years. By his false balance sheet the mortgage assets were overestimated to the amount of £12,000, the shares underestimated £24,000, and the deposits put at £25,000 less than was really due to depositors.

IMPROVEMENTS SUGGESTED.

As in all societies large sums of money are handled by the secretary, treasurer, and trustees, a more rigorous system of audit is now demanded. It is suggested that the present law be further amended to provide for—

- (1) A uniform system of accounts.
- (2) An efficient semiannual or quarterly audit by a public auditor approved by the treasury.
- (3) A periodical Government inspection.
- (4) The establishment of a reserve fund.
- (5) Advances to be made only upon the certificate of a properly qualified surveyor, in no manner connected with the society.

(6) The liability of officers of any society borrowing money upon deposit or loan, under penalty of fine or imprisonment, to repay all money so borrowed, unless they clearly prove that the depositor or lender knew at the time such deposit or loan was made that the society had then exceeded its borrowing powers.

RECEIPTS, LOANS, ETC.

The Government furnishes no statistics showing the capital, receipts, etc., of building societies. These figures must vary, correspondingly, with the relative financial strength and measure of success attained by each.

The following are statements, etc., from latest reports of prominent Birmingham societies :

At the forty-fourth annual meeting of the Birmingham Freehold Land Society, held November 10, 1891, the report stated that since its incorporation £892,805, mainly representing the savings of the working men and women and the lower middle classes, had passed through its coffers. The average amount paid in each year had been £20,000. The receipts for the previous year had been £25,929, an increase of more than 25 per cent over the average. During the year withdrawals had been less than usual, both in number and amount, only £5,800 being paid to withdrawing members. There was due to investing members £32,313. As there were 500 such members, the average amount due to each one was about £60. There being no preferred shareholders or loan-holders, every member stood upon an equality, and the £32,313 due to them practically constituted the entire liabilities of this society. To offset this indebtedness there was due from allottees or purchasers of land £15,381; from mortgage members paying interest, £15,673; from bankers upon call, £10,000; and the cost of the last estate bought by the society. In all there were £47,000 out of which to pay investors £32,313.

The thirty-second annual meeting of the Friendly Benefit Building Society was held July 12, 1892. The report states that the total receipts during the thirty-two years amounted to £626,919 14s. 3d., being a yearly average of £19,600; while the receipts of the year just passed were £45,922 4s. 5d., more than doubling that average. This increase had been during the last ten years especially. In 1882 the receipts were £24,000; in 1887, £29,000; and so on, increasing year by year, until in the preceding year they reached £45,000, the highest annual amount since the formation of the society. In the first year of its incorporation (1879) it was calculated that the society might be able to loan at the utmost £10,000 per annum; yet by successful and judicious management they had been able to loan £13,000 in 1882, £15,000 in 1885, £20,000 in 1889, and nearly £30,000 in 1891. During the thirty-two years £340,000 were loaned upon mortgage, of which £270,000 were paid back by borrowers, leaving £76,000 still due, which latter amount was being systematically reduced. There were 1,024 members enrolled upon the books, of whom only 211 were borrowers. The average amount due to each investor was about £90, and the average

owing by each borrower was less than £400. During the past year £3,480 were received from interest paid by borrowers and £2,745 allowed as interest to investors, which was at the rate of 4 per cent upon old accounts and 3 per cent upon new accounts and current payments. After paying all interest and expenses, £179 were added to the reserve fund, now amounting to £8,484. The necessity of a good reserve fund was dwelt upon as conducive to stability and steadiness, inspiring timid investors with confidence and enabling a society to sustain itself, in case of dull times or a panic, with comfort and safety. Recent strikes in the building trades were alluded to as evils attended by beneficial results to the community, inasmuch as they check overproduction, the erection of too cheaply built, inferior houses, and possibly avert a threatened panic or postpone it for several years. Excessive building tended to lower rents. With the prospect of increased taxes, a general reduction of rents would bring on a crisis and consequent shrinkage in market values of real estate. The accounts of this society are subjected to a continuous audit, and at every monthly board meeting throughout the year a certified cash statement is submitted to the directors.

The fourteenth annual report of the Birmingham Incorporated Building Society of February 9, 1892, is highly satisfactory. Its rules prohibit any director borrowing money and provide for the election of but two directors each year, instead of the entire board. A fire-guaranty fund had been established.

Below are figures from the thirteenth annual balance sheet of a smaller association, the "240th Starr-Bowkett Building Society," for the year 1891:

	£	s.	d.
Receipts from subscriptions from members, fines, interest, and other incomes..	1,976	6	2
Payments, including £1,250 advanced to members on mortgage.....	1,495	2	11
Cash on hand.....	481	3	3
Total.....	1,976	6	2
Liabilities.....	7,114	12	9
Assets.....	7,114	12	9
Advances to members on mortgages from commencement of society.....	12,800	0	0

BIRMINGHAM SOCIETIES AND DEPOSITS.

Birmingham building societies were not affected by the London panic. The London societies involved combined the functions of both building society and bank, the shareholders and depositors representing two classes with interests apparently separate, but each really dependent upon the general management. The principal Birmingham societies have no depositors who are not members. The members who borrow may be compared to parties purchasing goods upon the installment plan. The society indirectly builds the house by advancing money upon mortgage for that purpose, but retains the deed until the house is fully paid for. Operating upon this system, the prospects of insolvency are not probable. That portion of the capital belonging to members who are unprepared to build is generally in-

vested in ground rents. It can be withdrawn only after a specified notice, and only then provided its payment is not deemed injurious to the interests of the society. These provisions, which are features in the constitutions of the most prominent Birmingham building societies, would, should a panic occur, enable the officers to control and hold it in check.

ADAM EVERLY,
Consul.

BIRMINGHAM, *October 28, 1892.*

BRISTOL.

HISTORY OF BUILDING SOCIETIES.

These organizations, in their original intent and in contemplation of law, were associations of poor people who subscribed to a common fund, out of which advances were made to one another for the purpose of building or acquiring homes. But they have in a large number of instances gone widely astray of their objects and of the object Parliament had in view when it accorded them certain privileges and exemption.

Their history dates practically from the beginning of the present century, though combinations with similar ends and aims existed before that time. Their first legal recognition is to be found in the act of 1836. Under this statute, with some amendments in details, they operated until the year 1874, when a new law was passed, giving them wider privileges and defining with more precision their duties, obligations, and rights. These laws have been construed and defined by many legal decisions, and there is a vast body of judge-made law now controlling the operations of the societies.

BUILDING SOCIETIES ACT.

The essence of the act of 1874 may be said to be contained in section 12:

Any number of persons may establish a society under this act for the purpose of raising by the subscriptions of the members a stock or fund for making advances to members.

The act provides for a registrar, whose certificate, granted upon application, gives a legal status to a society. In accordance with the wholesome principle that individuals should be interfered with as little as possible by the state, the registrar has no authority to withhold his certificate, even though, to make an extreme supposition, he may know that the basis of organization of the applying society is radically false, and that the experiment must ultimately fail. Among his other duties, an important one is to receive financial reports at regular intervals from the societies; and he enforces a compliance with the law by a summons in the courts. He is also empowered to act as arbitrator, upon application, on matters in dispute, and his services in this capacity are often utilized. The act fixes a limit upon the borrowing powers of the societies, and none may borrow on deposits, debentures,

and preference shares more than two-thirds of the amount secured by mortgage. In general, the act may be said to provide an expeditious and inexpensive machinery for effecting the object set forth in the above-quoted section.

It is to be noted that there rests nowhere any right of inspection by the Government, and that the act does not concern itself as to the solvency of societies.

The present registrar considers the statute defective in some respects. He says:

Among the amendments which should, in my opinion, be made in the act of 1874, are:

- (1) That the words "if any" should be omitted after "within what limits" in section 16 (2); so that it should not be within the power of the directors of a society to defeat the claims of existing members by the unlimited issue of preference shares having priority over them.
- (2) That the right of members to ascertain by inspection of the books of a society how its affairs are being carried on should be secured by the insertion of provisions similar to those of section 14 of the friendly societies act, 1875.
- (3) That provision should be made for control by the members over the trustees appointed for the purpose of dissolving a society under section 32.
- (4) That the provisions for penalties in case of willfully false returns should be made more stringent, and that provision should be made for recovering penalties from the society, or its responsible directors or officers, without requiring the prosecutor to prove the offense against an individual, as in section 43.
- (5) That a form of annual return should be prescribed, and that it should be made up to a fixed date and within a certain time after that date.
- (6) That power should be given to the registrar, upon a proper requisition, to appoint inspectors into the affairs of a society, or to call a special meeting of a society, as provided by section 23 of the friendly societies act, 1875.

One is surprised that provision should not have been made in the original bill for matters of such importance as are here suggested. It has occurred, I believe, many times that subscribers of small amounts who have painfully accumulated a share interest have had their interest made subsidiary to a subsequent issue of preferred shares. It has been made clear, also, that members have not a sufficient supervisory authority over their own officers, and that attempts have been successfully made to prevent shareholders from inspecting the books. The lack of uniformity in the returns and the somewhat cumbrous machinery for enforcing their sending in have proved a source of trouble, not only to the officials, but to people generally interested in the subject and desirous of investigating it. In some cases, too, a statutory form carefully framed would have the effect, when the reports of particular societies are rendered according to its outlines, of correcting the misleading and intentionally optimistic statements made with the design of attracting investment.

EXTENT AND NATURE OF THE BUSINESS.

There are about 3,000 building societies in England, with a membership of 600,000 and assets aggregating some \$240,000,000. A limited number

do the bulk of the business, only about 60 having transactions exceeding \$240,000 annually. There is a tendency toward more societies with fewer members and smaller capital. This is not a good sign, as it indicates the formation of "wild-cat" societies which depart from the stable principles of the older organizations.

Societies are no longer in any sense philanthropic institutions. In their earlier stages men of means contributed, as "an encouragement to the workingman to thrift." Now they are conducted upon business principles. They have ceased, however, to be of great benefit to the people for whom they were originally designed. The older and more conservative organizations are patronized by a class far better off than the laborers—small retired retailers and the like—who invest their money in the bonds of the society and buy their houses through its aid.

BALLOT SOCIETIES.

If, however, the laboring man is not to be found at the counter of the old-established concerns, he patronizes liberally the new developments of the system. The bait that tempts him is usually the "ballot and sale." He and his friends form a society with a small entrance subscription and weekly dues. When there is as yet hardly any money in the treasury, they ballot as to who shall have the right to borrow the first £100 accumulated, without interest and repayable by installments running some twelve years. The winner in the ballot usually resells his right to the society for some £7 or £8, and there is a second ballot the next month. Thus before there is £100 accumulated the right to borrow it may have been balloted for half a dozen times. The merry game goes on until some one wins the chance who really wishes to buy a little home. There is then valuation of the plot and house, and the money is advanced on mortgage. Then the gambling goes on till there is a second £100 gathered. It is an open question whether this procedure is not a violation of the anti-lottery statutes, but the matter has never been tested in the courts. There is no stability, as those who are disappointed month after month in the drawings, as most must be, become discouraged and withdraw, and the society gradually disintegrates. The whole procedure is as ingenious a misapplication of a law as may be readily found, and illustrates how universal is the passion for gambling.

Of the 161 new societies registered in 1891, only 12 were organized on the sound and conservative principles of the old permanent societies. All the others were terminating societies, by which is meant those that are to be wound up when certain definite purposes are accomplished. The vast majority of these terminating societies were of the "ballot-and-sale" type—the right to obtain advances on mortgage being obtained either by the arbitration of chance or by a sale to the highest bidder, the two methods usually alternating, but sometimes in the proportion of two ballots to one sale. Some societies, such as the Oldham group, of which 5 were registered in 1891, sell all their advances; some ballot for all; while a few neither ballot

nor sell, but go by priority or the discretion of the officers. Upon these vagaries the registrar comments thus strongly in his report for the year 1891 :

In various ways, however, these societies tend to depart from their original object, which alone no doubt obtained for them their legislative recognition and privileges, viz, that of enabling members, by clubbing their savings together, to provide homes for themselves through advances from the common fund. One of the commonest attempts to depart from this object consists in the endeavor to turn the society into a loan company by making advances to mere outsiders who have never subscribed to the common fund. This is clearly contrary to the intention of the building societies act, 1874; * * * nor does there seem any reason why a loan company of this description, if it succeeds in disguising itself as a building society by some scheme of colorable membership for nonsubscribers, should enjoy the exemption from stamp duties and other privileges granted by the act.

But this is comparatively a minor mischief. The success of one large body of terminating societies on the ballot-and-sale principle—the “Starr-Bowkett” societies—all established with uniform rules by one energetic promoter, has led to the formation of similar subgroups (not indeed all for both ballot and sale) by his imitators, as the “Model,” the “Richmond,” the “Economic” or “Peers Economic,” the “Bona Fide,” the “Perfect Thrift,” the “Popular” building societies, etc. In short, the establishment of such societies has to a large extent ceased to afford any indication of a real want and has become a mere trade, while their operations, when established, have also to a great extent ceased to represent any real addition to the dwellings of the laboring or lower middle class and tend more and more to supply a mere outlet for gambling. It appears to be the practice in these societies first to sell “appropriations” before they have the money in hand, then to buy back these fictitious sums in order to tempt fresh gamblers into the society. This selling and buying back of appropriations may go on for two or three years before any genuine loan is granted, or the society may come to an end without having done anything else. The rules, moreover, of these societies, as the chief registrar has already had occasion to point out, are of the most oppressive description, and such as one is astonished to see accepted by persons of ordinary intellect, huge majorities being required for altering any provision that the promoters think necessary for the preservation of the interests of the first officers or those of their immediate creatures, while every effort is made to hinder or render onerous the withdrawal of the members, their unfortunate milch cows. Without for a moment denying that many of the older societies and a certain number of the newer ones are respectably and beneficially conducted, it is clear that the building societies act of 1874, inspired by the societies themselves, though in construction and style a vast improvement on the original act, has proved far too weak, and that the next act on the subject must be one of a far more stringent character, among other things assuring to the members rights to a great extent similar to those of members of friendly societies.

Bearing in mind that no returns are received from unincorporated building societies, it may be pointed out that the number of building societies making returns since 1877, the first year when they were required to state the number of their members, has increased from 675 to 2,157, or nearly 270 per cent; the number of members returned from 224,427 to 570,678, or over 154 per cent; and the funds from \$109,233,847 to \$247,115,015, or over 112 per cent—figures which, while showing the popularity of the type, sufficiently indicate the multiplication of small societies, still weaker in funds than in numbers.

BENJAMIN STARR.

The reference in the above quotation to the “Starr-Bowkett” societies induces me to give some particulars concerning the remarkable organizer whose genius has succeeded in so signally perverting building societies into machines for gambling. Mr. Benjamin Starr, who died in February of

this year, established 1,000 building societies, some of which are still existing, some of which have ended in natural course, being terminable, but most of which have come to premature death to the disappointment of shareholders. His phenomenal activity was probably due to the fact that he obtained a fee for the use of his copyright rules and a commission from the officers of the different societies for obtaining them positions. He was, in fact, an admirable *entrepreneur* who went about the country and showed people how they could organize a lottery under a respectable name and within the law. I do not think that it would be easy to overrate the harm his system has done the already improvident workman. He has a successor in a Mr. Connor, who is a promoter of "model" societies, nearly 400 of which are due to his enterprise. They are on the same general lines as the Starr-Bowkett societies. In a case in a Manchester court last July it came out that a firm of accountants there made a business of starting building societies, delivering a lecture, handing over books of rules, etc., and subsequently drawing \$175 as a fee from the society, besides mulcting the surveyor (whose appointment they would secure) in the sum of \$25, the solicitor \$100, and the secretary \$25.

When promoters are so well paid as this, it is not surprising that organizations, which admit the tempting elements of chance, have sprung up like weeds all over the country with, in too many instances, disappointing results to shareholders and an overbuilding of cheaper dwellings.

CONSERVATIVE SOCIETIES.

The competition of these modern flashy growths has interfered with the due development of the more conservative and properly governed institutions, and some of them have during the past two or three years been obliged to refuse money, as they have been unable to place it to advantage. It is true, however, of two institutions with which I am familiar that there has been increased activity in their business to a noticeable extent within the past six months. This is attributed to the lessons inculcated by the notorious failures of the current year. People appear disposed to discriminate between the various classes of societies and to return with their patronage to the old-fashioned institutions. Such organizations confine themselves strictly to their business. They ought to, and aim to, pay investors about 4 per cent; and they ought to, and aim to, lend to borrowers at $6\frac{1}{2}$ to 7 per cent. They lend up to eight-tenths of the survey value of the property, though in exceptional instances, where the character of the borrower is well known and the circumstances surrounding the property are favorable, they have been known to lend the full value. With any reasonable care in estimating values, it is very unusual for building societies to lose money lent on mortgage. It is difficult, in fact, for a properly managed organization to go wrong. It may wind up for want of business, but this may be done without loss, as it has no investments to realize; but it can not default unless it is wrongly constituted or unless there has been fraud or malfeasance in its management.

BANKING BUSINESS.

The minute, however, that it goes outside its specific objects the danger begins. If it tries, for instance, to introduce an ordinary banking business, it is pretty sure to fail. It is subject then to sudden calls for large sums, and its money, being in mortgages, can not be realized; or else it must maintain so large a reserve as to make the banking business unproductive. It is true the Birkbeck Building Society, in London, has a great banking department, and that it emerged this autumn with distinction from a great run; but the Birkbeck is now primarily an ordinary bank and incidentally a building society. It has, in fact, over \$25,000,000 on deposit at call or on short notice, and has a like amount invested in gilt-edged Government securities which may be realized at a moment's notice. It is among the dozen great banks of England, and the history of its rise from a modest beginning in 1851 would make an interesting chapter.

Another temptation is to give financial support to speculative builders. A society that does not resist the alluring offers of interest from this source is doomed. Overbuilding results; the houses are not sold; payments are not kept up. Then comes foreclosure, with the result that the security is found to have been overvalued, and there is loss.

RECENT FAILURES.

The year just ending (1892) has witnessed the failure of some of the larger societies under circumstances calculated to attract eager attention, not only to the individual societies, but to the system as a whole. An investigation of two or three of the most striking cases may not be without interest. The year opened with the suspension of the Portsea Island Building Society, at Portsmouth—an institution high in the popular esteem, with a good record of fifty years behind it—having liabilities to depositors alone of \$2,642,509. Its 1,485 shareholders included naval men, seamen, dock employes, retail dealers, etc., and its capital was \$885,703. Its loans on mortgages footed up \$2,554,912, and it had over 10,000 depositors. The management was in the hands of an ex-steward in the navy, a printer, an auctioneer, a retired naval messman, and a grocer. The secretary had been with the society since its foundation and enjoyed the high confidence of the community. It is now apparent from investigation that the secretary was a knave and the directors fools, that there are large shortages, and that the concern was insolvent long before it closed its doors. The officers of the defunct society are now under indictment. Trade depression and the shock to the credit of the societies by this failure resulted in dull business during the first months of this year. There was an attitude of watchfulness and a timidity on the part of investors that contributed perhaps more than anything else to the stoppage in September of the important Liberator Society, subsequent to the suspension of an allied bank—the London and General. The Liberator was the largest of the purely building societies, and at the beginning of the year had deposits of \$7,241,352 and assets in mortgages

and cash to the extent of \$15,436,538. Such investigation as it has been possible to make in the short time since the suspension demonstrates a reckless mismanagement on the part of the directors and a gigantic system of bolstering up one particular firm of speculative builders. The winding up of the concern is now in the hands of the official receiver in bankruptcy, and vigorous efforts are being made by some of the interested parties to effect a scheme of reconstruction.

The stoppage of the Liberator Society induced a panic, and there were runs upon all the larger institutions of a similar nature. The House and Land Investment Trust, though incorporated under the limited companies act and not registered as a building society, was compelled to suspend. Its business was inextricably mixed up with the Liberator, to which it is a debtor \$2,837,169. That this latter should have been lending on mortgage such a sum as this to an affiliated company is evidence of erroneous judgment—to say the least. It is possible that the House and Land Investment Trust may be reconstituted.

The London Provident Building Society was also compelled to suspend payments. It was established in 1863 and incorporated in 1874 with the banking feature added. The amount, according to its last balance sheet, due to investing members or shareholders was \$170,327 and to depositors \$528,015. Enough has already been learned about the position of the society to enable the provisional liquidator to say that the last published accounts did not represent the state of affairs; and he instances suppressions, alterations, and additions of such magnitude as to require “searching and complete investigation.”

The London and Commercial Building Society also suspended payments in September. Now, this suspension is one of peculiar interest. First, because the directors the next day concluded that they had been hasty in closing their doors, and immediately thereupon reopened them—a thing perhaps unique in the history of commercial enterprise; and, second, because of the reason of their returned confidence. The secret of their ability to weather the storm was the fact that they had engrafted no banking upon their proper business. Hence, when panic-stricken depositors sent in notices of withdrawal, the directors fell back upon a by-law, which ought to be in the rules of every properly constituted association, providing for the payment of withdrawals only in such sums as the funds allowed. Their position now became this: that when a mortgage was paid off the amount was distributed by priority of notice among depositors. It is obvious that if loans have been made with care the ultimate result will be that all depositors will get their money and interest. This association is now transacting its ordinary business unscathed by the storm.

It is not necessary to multiply instances. Other large societies have gone by the board, but the results all show the same thing—mismanagement or dishonesty.

The official organ of the associations, in its leader for October, thus sums up the situation:

September will long be a memorable month in the history of building societies. No more dismal record of weakness, folly, and fraud has it been our painful duty to present to our readers than that which is embodied in the columns of our present issue. It is impossible to shut our eyes to the fact that in societies hitherto regarded as above suspicion the grossest frauds have been perpetrated by the very men to whom shareholders and depositors specially looked for the safe custody of their hard-earned savings.

It is convenient to mention here that the registrar reports that in the fifteen years 1875-'90, so far as he can gather, 1,236 building societies have ceased to exist throughout England and Wales. As there were about 2,700 in existence in 1890, it is thus apparent that about one-third have gone to the wall. Nearly all were small and quietly dropped out of being, with deficiencies larger or smaller according to the roguery or the inaptitude of the management.

On the whole, reviewing the history of the year just ending, it may be said that the effect of the crisis has been to purify and strengthen the associations that remain and to draw attention to the societies carefully conducted on the old lines. The strength, as well as the weakness, of the system has been presented clearly to the public, who too sincerely appreciate its advantages to allow occasional shocks to shake their faith. Thousands of men in England to-day owe building societies for homes which, without their aid, they could never have acquired; and thousands more in the future will lie under the same obligation and will learn through the mistakes of to-day to watch the management and not to juggle with financial methods.

Friendly societies in England.

Societies established under—	Incorporated.	Dissolved.	Remaining.
The act of 1836.....	660	155	505
The act of 1874.....	2,827	684	2,143
Total.....	3,487	839	2,648

The 2,648 incorporated societies remaining have a membership of 585,836 and funds amounting to \$239,667,417.

LORIN A. LATHROP,

Consul.

BRISTOL, *November 10, 1892.*

MANCHESTER.

GENERAL ACCOUNT.

A building society, as the term is understood in England and Wales, may be defined as "an association of persons subscribing to a common fund to be employed in making advances on house, land, or other property, the

sums advanced being usually, though not necessarily, repayable by installments." Such advances are usually confined to members of the society; but it is a common practice for persons to become members for the sole purpose of borrowing, the taking out of shares and the receiving of an advance being simultaneous transactions. Such members as do not desire to borrow, but merely pay their subscriptions and other contributions to the society's funds, are called "unadvanced" or "investing" members, and provision is made by the rules for enabling members to withdraw on certain specified terms.

PERMANENT SOCIETIES.

There are several classes of these societies—the permanent, the terminating, and the various ballot and ballot-and-sale societies. Taking the first as perhaps the simplest, and, as many consider on the whole, the best and most equitable, type of society and as the one which probably carries out most completely the purposes for which building societies exist, it may be defined as "an association which by its rules has no fixed date or specified result at which it shall terminate, and which may therefore continue its operations for an indefinite period." The Victoria Building Society and the Queen, of this city, are fair types of this class, each having an annual income of over \$500,000 and doing an extensive business. A permanent society is constituted by an agreement on the part of several persons to take shares of a certain fixed value, on which payment has to be made either in a lump sum or by installments until the full amount of the share has been paid up, and the sums so paid carry interest. Advances are made to members from time to time, as the funds will permit, upon security of land or house property, the money being usually repayable by equal installments, composed of principal and interest and spread over a fixed period. Permanent societies usually embrace three departments—depositors, investing members, and borrowing members. The depositing members place money upon loan or deposit with the society, receiving thereon a fixed moderate rate of interest, lower, of course, than that paid to the shareholders. The depositors are under no liability in case of misfortune overtaking the society, but their deposits, with interest, constitute a first charge on the assets of the society. Building societies may receive deposits or loans at interest, to be applied to the purposes of the society, but not exceeding two-thirds of the amount secured by mortgages. Investing members pay periodical subscriptions or shares (of any fixed value) until paid up, or pay the full amount at once, as before specified. In the former case a fixed rate of interest is usually paid and a share of any further profits pro rata on the interest by way of bonus. In the latter case a fixed rate of interest is usually paid, with or without a share in the further profits. Many persons become members of building societies for the purpose of deposit or investment only. The shares are usually withdrawable at one month's notice, but the directors have power in some societies to limit withdrawals. This power, though salutary, and indeed almost essential, is, of course, only exercised when the available

funds appear to be insufficient to meet probable withdrawals. Borrowing members are those to whom the society has made advances on mortgage of property, such advances being usually repayable by installments, as before stated. These installments consist partly of interest and partly of principal, the amount in respect of principal increasing upon each payment, and that for interest decreasing, the mortgage being thus gradually reduced, as the amount on which interest is payable is continually becoming less. The expenses of management are covered by the difference in interest received on advances over that allowed to depositors and shareholders, and in some societies a charge is made on the shares withdrawn before maturity. In some societies, also, a small charge is made upon each member as an entrance fee.

TERMINATING SOCIETIES.

A terminating society is one which by its rules and constitution is to determine at a fixed date or when a result specified in its rules is accomplished. The earlier societies were all of this class. The scheme of a terminating society is somewhat as follows: The society is constituted by several persons, each subscribing for a certain number of shares; on each share a fixed subscription is made payable so long as the society lasts, the intention being to continue the society until the subscriptions, with the interest that has arisen from their investment, shall have produced such an amount per share as may have been fixed by the rules; as soon as the society has sufficient funds in hand, advances are made to such members as may be desirous of having advances in anticipation of the shares which would be payable to them on the termination of the subscriptions, the sum advanced being the amount of the member's share or shares, less a discount, and the member receiving the advance executes a mortgage of real or leasehold property to the society for securing the due payment by him of his subscriptions and other contributions to the funds of the society. Any number of persons may form a society, either terminating or permanent.

BALLOT SOCIETIES.

These are a species of terminating society, and consist of a number of members who receive advances without interest. The order of receiving such advances is determined by ballot. When the state of the funds permits, a ballot is drawn for, and the winner is thereupon entitled to the advance, and so on until each member has received an advance. The society terminates when all have received an advance. No interest being charged on advances, none is allowed upon members' subscriptions. The working expenses are charged upon each share, a yearly payment having to be borne by each share. Societies of this class have been freely criticised on the following grounds: (1) Members entitled by ballot to advances, that is, those who draw the earliest ballots and thus obtain the first and earliest advances, have great advantages over the rest; (2) some members becoming entitled to advances in this manner may be those who do not need or desire any such

advance, while other members who do need advances have to wait until their ballot is drawn, the whole scheme being one of chance and uncertainty; (3) as the number of members in societies of this class is limited, usually consisting of from 300 to 500, the cost of working the society is considerably heavier per head than is the case in larger societies.

BALLOT-AND-SALE SOCIETIES.

These are a modified type of the ballot society. Advances are made in societies of this class by ballot, as in the case of the society last described, or by sale, the highest bidder for £100 (or any other specified sum) being entitled to the advance. Ballot-and-sale societies are open to some of the same objections as the purely ballot societies. Many of the ballot societies and ballot-and-sale societies are under "copyright" rules, and are consequently taxed heavily in favor of the promoters, who sell the copyright of the rules to the society. Out of a total number of 128 societies registered between September, 1891, and September, 1892, 77 were of the two classes (ballot and ballot and sale) above described. As a rule, the success of these societies has been far from encouraging.

CAUSES OF FAILURE.

Among the causes of failure of building societies may be noted:

(1) Receiving too much money on deposit payable "on demand;" uneasiness among the depositors arising from any cause producing a run upon the society's funds, which, from the character of the bulk of the assets, can not be promptly met.

(2) Excessive advances upon property, which, being discarded by the borrower, figure in the assets as "an amount owing," and, the rents not covering interest, etc., the deficiency is continually added to as an asset.

(3) A large portion of the funds of many societies—particularly those established in large towns—is lent upon suburban houses, which have a tendency to depreciate in value as the suburbs stretch farther and farther into the surrounding country; so that loans of this class, unless made on good margins and worked carefully, are apt to result in loss.

From the date of the building societies act of 1874 until April, 1892, 1,236 English and Welsh societies incorporated under that act have ceased to exist. Of these 260 had a total deficiency of \$1,000,907.65, being an average of \$46,336.05 for each society. A very large proportion, however, of these had only a very limited membership (over 900 of them had less than 500 members each), so that the heavy cost per head of working the society must have been an almost insuperable obstacle to its success.

The last few years, however, have witnessed the failure of four notably large societies—the Liberator, the South Yorkshire, the Portsea, and the Onward. In the last two cases the failure was mainly owing to the misappropriation by officials of a portion of the societies' funds. In the case of the South Yorkshire the society had imprudently advanced considerable

sums upon security of colliery property, which turned out unrealizable and was eventually the main factor in bringing about the collapse of the society. The case of the Liberator calls, perhaps, for more detailed notice. This was the largest society in the United Kingdom, having funds to the extent of over \$14,599,500, equally made up of deposits and shares. It had a yearly income of over \$4,866,500 and a membership of over 20,000. It suspended payment in the autumn of the present year and is now in compulsory liquidation. The cause of failure was alleged to be due primarily to a severe run upon its funds and to the stoppage of a bank with which it carried on business, but upon investigation during the course of its liquidation it was found to be in a most unsatisfactory condition. Over \$9,733,300 of its funds appeared to have been lent to one firm—a limited company of builders in London—and the greater part of the remainder had been advanced to two other companies dealing or speculating in land. Of the regular business of building societies, *i. e.*, the lending of moderate sums to a large number of small property-owners, the society possessed comparatively very little, and, to aggravate the evil, much of the money advanced to the three concerns above alluded to was lent upon second and, in some cases, third mortgages only, and in many cases upon large blocks of buildings uncompleted at the time of the advance, many of which are, in fact, uncompleted at the present time. The official receiver has alluded in very strong terms to the management which has produced such a condition of affairs.

In an interview with Mr. W. E. Brabrook, the chief registrar of building societies, that gentleman said:

The primary fault—the great and grave fault—in the building-society system is the one which renders panic so liable. Building societies receive large sums of money on deposit, and they undertake to return them on demand. Here it is that the trouble comes in, because they can not possibly return the deposits on demand. Take the instance of the Liberator Building Society. It had, according to the last printed Parliamentary return, \$7,299,750 of deposits, \$14,599,500 out on mortgage, and something over \$291,990 in cash. So there was only \$291,990 at hand immediately available to meet the withdrawal of \$7,299,750 of deposits. Imagine a rush of depositors in such a case, and you are at once able to see the result. The money on mortgage is not available, and thus, whenever the money immediately available is exhausted, business must stop. So long as there are only the ordinary number of withdrawals, depositors can have their money on demand; when they all require their deposits, there is not nearly enough for them.

The building societies in England and Wales owe to the shareholders \$165,461,000 and to depositors and other creditors almost \$72,997,500. Their money invested on mortgage is \$228,725,500, and their cash and other immediately available securities \$17,864,921. Suppose a simultaneous rush on every society, there would be \$17,864,921 to meet deposits of \$72,997,500.

In the opinion of the registrar, the remedy is not to abstain from receiving deposits, these being a necessity, but distinct statements made by the societies that deposits are not necessarily payable on demand. On every depositor's book there ought to be printed a notification that the money is only repayable on demand if the society has funds to meet it.

To enhance the security and usefulness of building societies, the registrar suggests that a certain percentage of members should have the power to demand an inspection by the registry office of the affairs of the society; that there should be a prescribed form of annual return; that it should be made up to a certain fixed date; and that more stringent penalties should be enforced in case of willfully false returns.

It may be pointed out, however, in reference to the registrar's remarks regarding the insufficiency of ready cash, etc., to meet a possible abnormal demand, that the same objection might be made to almost every banking establishment in the country. Very few, if any, of these institutions, it is submitted, keep on hand a sufficient amount of available cash to meet all possible liabilities if demand for their payment be made simultaneously.

WILLIAM F. GRINNELL,
Consul.

MANCHESTER, *January 26, 1893.*

BUILDING SOCIETIES.

[From the London Times of November 17, 1892.]

Some recent events of a striking character, such as the collapse of the Liberator Building Society and the severe strain imposed by misplaced suspicion and unreasonable panic upon the resources of the Birkbeck institution, have forcibly called attention to the condition of building societies generally and to the laws under which they are conducted. The subject is one of very great importance to hundreds of thousands of investors, mostly of small or moderate means—the class, in other words, to which security is of the highest importance, but which, as experience amply demonstrates, is addicted to taking risks which wealthy men would not incur. It is therefore a subject in every way worthy of the attention of the London Chamber of Commerce, which yesterday listened to an able exposition of the existing law, with suggestions for its amendment, by Mr Brabrook, chief registrar of friendly societies. Building societies may be regarded as a special form of friendly societies, and, as a matter of fact, many of them are of a mixed type, combining with building-society work more or less of the functions of friendly societies. Mr. Brabrook's official position consequently enables him to speak of building societies and their work with as much authority as of the allied societies from which he takes his official title. His suggestions are of a moderate and eminently practical kind, and have not been drawn, as he is careful to point out, from consideration of the unfortunate events to which the subject owes its present prominence. They are based, on the contrary, upon experience of what we may call the normal state of affairs and upon comparison with the legal regulations under which friendly societies are worked. He agrees with most people who are capable of treating the matter in a large and business-like spirit in deprecating anything that may tend to teach members and investors the evil habit of relying upon State inspection and control for that security which ought to be attained by their own vigilance. State inspection destroys elasticity and cramps enterprise, without affording any guaranty that can not with equal ease be attained by other methods. It is for the State to prescribe the constitution of industrial associations, as it regulates the constitution of municipal authorities; but in one case, as in the other, the transaction of business within the powers of the constitution ought to be left in the hands of the persons immediately interested.

Mr. Brabrook thinks that the law as it stands is defective in that it gives no power to members of building societies to inspect the books, and thus to see for themselves whether the directors are keeping to legitimate business. If he means that each individual member

ought to have this power of inspection, there is a good deal to be said for the objections formulated on behalf of managers and directors by Mr. Wood, of the Temperance Permanent Society. The perpetual incursions of members bent on inspection would be an intolerable hindrance to business and would be destructive of legitimate privacy. On the other hand, it may be doubted whether it would prove a very effective check. Nothing of the kind could be endured in the case of a bank or other joint-stock company, the members of which might claim an equal right to inspect and supervise. It would surely be enough to allow inspection by some competent agent upon the written application of a number of members sufficiently large to eliminate individual caprice. Mr. Brabrook, however, immediately goes on to say that members who lack leisure or ability to make effective inspection—probably a very large majority in all societies—ought to have the protection of an efficient audit. Why, then, not let all the members trust to that same protection? An efficient audit is what very few men can make for themselves, however great their facilities; but it is just one of the things that the law can insist upon. It is obvious that the audit at present is a mere farce, and we are not sure that Mr. Brabrook's suggestions go far enough in the way of reform. He seems to resign himself to the inability of auditors to examine mortgages as a solicitor would and seeks a remedy in affixing severe penalties to false returns. He instances one society in which a fraudulent secretary kept old mortgage deeds for exhibition to the auditors by way of making up the tale. Fraudulent secretaries would still do that kind of thing, trusting to get away to South America before the fraud was discovered. Why should not auditors examine mortgages as a solicitor would? What is their audit worth if they do not? Obviously nothing at all. The money due on mortgages is the principal asset of the society, and, if the auditor can not speak to the accuracy of a single item, what can he know about the total, and what possible value can his audit possess? Mr. Whinney struck the nail on the head when he advocated a form of balance sheet showing, among other things, the total amount lent on mortgage, the number of mortgages, the amount of each mortgage, and the amount actually due by each mortgagor. These particulars duly verified by an auditor would offer a trustworthy account of the society's assets, but nothing short of this can afford to the members the information they are mainly interested in possessing. Another very important demand made by Mr. Whinney is that the number and value of the estates upon which the society had been obliged to foreclose should be given in detail. It is frequently the accumulation of such estates, which can not be managed to advantage, that proves the ruin of a building society. They are abhorred and feared by every prudent manager.

Mr. Brabrook, at the close of his speech, touched lightly upon one of the greatest dangers of building-society enterprise. From the nature of the case most of the money possessed or borrowed by a building society is lent by it upon the security of small suburban dwellings—a kind of security nearly always in course of depreciation. Unless this sort of business is worked with great circumspection and with large margins, it is certain to result in loss. It has to be remembered that people who buy small houses with building-society loans pay annually only about what they would pay for rent. Indeed, it is common to see advertisements assuring them that for less than the annual rent the house will, in a given number of years, become their own. So far, so good; but a man who has paid for three or four years only what he would have paid anyway for rent has very little compunction in throwing the thing up altogether when he is tired of the locality or finds repairs getting heavy, as they do in poorly built houses. Then the society has the place on its hands in a bad state of repair and probably in a deteriorating neighborhood. When, as too often happens, the builders of these houses are wholesale customers of the society, with possibly friends or relatives on the directorate, the evil is aggravated indefinitely. Whole streets are built by mortgaging one side to find capital for the other, and a society once drawn into this kind of business is under sore temptation to stave off the evil day by financing men who at last come to grief. Against these dangers there is no protection save in the integrity and capacity of the managers, stimulated and aided by an audit which can hardly be too rigorous and a balance sheet that can scarcely be too full.

NEWCASTLE.

Speaking generally, there are two kinds of building societies (having entirely different systems of working), *i. e.*, permanent and balloting, or terminating, societies.

PERMANENT BUILDING SOCIETIES.

Their capital consists of preference shares, being fixed amounts, at a fixed rate of interest, lent subject to a certain fixed notice—say, if £100 are invested, the investor would give six months' notice to withdraw it; and ordinary shares (but usually only to a small extent), in respect of which monthly installments are paid to the society and accumulated at compound interest. Societies have also power to borrow money to the extent of two-thirds of the amount for the time being secured to the society from its members.

The stability of a society depends upon the care exercised in making advances. If the security is properly managed, the stability ought to be good, because in nearly all cases the mortgages are being reduced by monthly payments. Usually the best test of the soundness of a building society is the smallness of the amount of property it holds as mortgagee in possession.

The usefulness of a building society is demonstrated by the fact that it enables a man to become possessor of property by a comparatively small payment to begin with and installments extending over a period usually not exceeding twenty years. They are also a convenient means of investing savings in small monthly amounts, or in investing sums of various amounts from time to time in preference shares.

Several building societies have failed, but not a larger proportion than in other undertakings, and not so many in proportion to liquidations in limited companies. The cause or causes of such failures may be attributed mainly to advances made on what afterwards proved to be insufficient security, and in some cases to defalcations by some of the officials. I give four cases of building societies that have failed in this district during the last four or five years:

- (1) Security proving to be insufficient. Not yet settled.
- (2) Defalcations by the secretary and security proving to be insufficient. Preference shareholders got a dividend of about 15s. per £1.
- (3) Security proving to be insufficient. Preference shareholders accepted a reduction of 10 per cent on the amount of their shares, and the society then went on again.
- (4) Security proving to be insufficient. Paid 15s. per £1.

I inclose a leading article on building-society failures which appeared in the Newcastle Daily Journal of November 8, 1892.

The Institute of Chartered Accountants is at present obtaining statistics as to building societies' accounts.

At the last meeting of the executive committee of the Leasehold's Enfranchisement Association a resolution was adopted that it is a matter of national importance that a Parliamentary inquiry should take place immediately into the financial position and the legal status of the building societies in this country, with a view to such reform as will adequately protect the savings of the thrifty; so that it is quite probable that the laws relating to British building societies will undergo a radical change before long.

BALLOTING, OR TERMINATING, BUILDING SOCIETIES.

I inclose prospectuses of the Starr-Bowkett and Economic building societies, which explain their object and systems of working.

HORACE W. METCALF,

Consul.

NEWCASTLE, *December 15, 1892.*

[Inclosure No. 1.]

BUILDING SOCIETIES AND BUILDING SOCIETIES.

[From the Newcastle Daily Journal of November 8, 1892.]

Next to the dangers of reckless overconfidence must undoubtedly be placed the certain mischief of indiscriminate distrust. For some time past there has been a cumulative pressure of facts tending to the discredit of building societies. They have fallen into difficulties, they have been shamefully robbed, or they have collapsed altogether—in each case entailing loss, or possibly ruin, upon their shareholders and depositors. All this must be taken to show that in many cases building societies conduct their business rashly and indulge in ruinously unsound property speculations, and also that some of them whose mode of business is not unsound are so carelessly and loosely managed as to afford constant opportunities for the embezzlement of their funds by those through whose hands they pass. The dire and, as it appears, shameful failure of the Liberator Building Society may be said to put the climax on a long list of unpleasant and disquieting exposures, the consequence of which must be to shake public confidence in all concerns, not only of the same description, but merely bearing the name of building societies. Of course, that would be as great an error as that of permitting the failure of one recklessly conducted bank to destroy public confidence in the whole system of banking. In the current number of the Investors' Review we find in an article on building-society finances the following sweeping assertion:

"A sound and reasonably solvent building society is a very rare object indeed; and the majority of them conduct their business in defiance of the first elements of solvency. Yet in England and Wales, according to the last Government return, nearly £49,000,000 of shareholders' and depositors' money is invested in these concerns."

That is a direct intimation that some fifty millions of capital, for the most part belonging to the working and lower middle classes, is invested in undertakings which are rarely solvent. No such wide and far-reaching statement should be made by what purports to be a high financial authority without better data than can possibly be within the knowledge of the writer of that article. Indeed, he goes on himself to show wherein lies the special risk, and thus to impugn the sweeping character of the original statement. "Gigantic organizations of this sort are especially to be avoided, were it only on the ground that their abundance of funds is sure sooner or later to involve them in unprofitable building speculations."

That is not only true, but it seems to us to be the *crux* of the whole matter. There may be, and we hope are, some "gigantic" building societies which are solvent and soundly man-

aged; and there are small societies which are badly and foolishly conducted. But that does not, we believe, detract from the truth of the general principle that building societies can not safely expand into ambitious financial concerns, transforming themselves into banks of deposit, not only inviting, but soliciting, an unlimited custody of money. When they do that, they forsake the right and legitimate functions of a building society and undertake the business of bankers without either observing the rules or providing the securities on which sound banking is based. Of these abuses the Liberator Society affords glaring testimony. It had the handling of three and a half millions of capital belonging to shareholders and depositors, and to employ this money it was obliged to enter into a series of financial expedients which rank with the most rash and daring of those resorted to by modern speculative finance. It is quite evident, whatever demurrers may be made to the statement, that the London and General Bank and the House and Land Investment Trust were simple props put up in order to support the speculation of the Liberator Society. The closing of the London and General Bank led to the collapse of the society, and yet the bank had not the command of more than half a million of money, or about one-seventh of the capital of the building society. But the society, nevertheless, had been kept going by the credit it succeeded in obtaining from the bank, while the House and Land Investment Trust was a kind of pawnshop where it could pledge its mortgages. When we inquire what the society did with its money, the answer is easy. It engaged in gigantic building speculations with it under the cover of the names of one or two huge limited-liability firms. Messrs. J. W. Hobbs & Co., to whom the society lent over two millions, was a small company, and the shares were largely held by the directors and prominent members of the Liberator. It appears that Mr. J. Spencer Balfour and several others transferred their shares in Hobbs & Co. a few months before the firm went into liquidation; but, as they were all taken over by one man, who is the secretary of the Building Securities Company, which has much the same proprietary as the other concerns in the group, it may be doubted if they have escaped their liability.

What is perfectly evident is that Hobbs & Co., the Building Securities Trust, the Liberator Building Society, the London and General Bank, and the House and Land Investment Trust were all so many companies hanging together, and all worked toward the one end of getting the public to provide the money for gigantic building speculations on the Thames embankment and elsewhere. Now, there is nothing immoral or wrong, whatever may be said of its prudence, in investing millions of money in building huge blocks of mansions which might or might not turn out to be profitable. The wrong consists in persuading the public whose money is being thus employed that they are investing in a society which is conducting a sound and safe business by lending only on good mortgages and assisting thrifty people to become owners of their own houses. The Liberator was doing very little of that kind of business at all. It was engaged in a most elaborate scheme of financing, in the hope of enabling certain people to become rich by trading on the capital of thousands of unsuspecting people, small investors, Dissenting ministers, treasurers of chapel funds, and so on. That is not building-society business, but the grossest abuse of it that can possibly be conceived of. And while it is perfectly true that it should induce a wholesome suspicion of all gigantic and ambitious concerns which may be the development of what were originally soundly managed building societies, it is no reason for distrusting such societies when they stick to their own legitimate province and are honestly and skillfully managed. Nor, indeed, is it difficult to lay down the very few simple principles, the observance of which will render building societies as safe as they are useful. These may be stated in a few words: First, the societies should not take on deposit more money than they can readily invest, and should not offer high rates of interest to tempt depositors; second, they should invest only in first mortgages upon good, salable property and never allow themselves to drift into the ruinous business of financing speculative builders; third, they should not advance more than a moderate amount to any one member. These three rules being observed with strict honesty, sound valuations, and general good management, building societies will very seldom find themselves growing to "gigantic" proportions, and they will always be solvent and safe.

[Inclosure No. 2.]

PROSPECTUS OF THE BENWELL AND DISTRICT 680TH STARR-BOWKETT BUILDING SOCIETY.

Unbounded success attends the Starr-Bowkett building societies in Great Britain and Ireland, which is proved by the fact that 750 of them have been formed and over £3,800,000 worth of house property purchased for members. The secretary and a few friends have arranged with Mr. R. B. Starr, author and founder of these building societies, to form a society for Benwell and district, feeling convinced that principles producing such grand results can not be too widely known.

The leading feature of the plan is that all appropriations are made by ballot, and the member obtaining the same may purchase property without paying a premium or interest of any kind, as in other kinds of societies.

The majority of the community pay house rent during the greater portion of their lives, and in so doing often pay double the value of the houses they occupy, when by joining this society the rent so paid may be capitalized to purchase the house. The principles of the Starr-Bowkett building societies have been thoroughly examined and, having stood the test of opposition in every form, are proved to be (for those dependent upon their own exertions especially) the best kind of building societies in existence. The following brief outline will show the manner in which this society is conducted :

There are to be 500 members, each of whom subscribes 6*d.*, 1*s.*, 1*s.* 6*d.*, 2*s.*, or more weekly; about three months before these subscriptions amount to £200 a ballot takes place. The member obtaining it is then entitled to an advance, free of interest, of as many hundred pounds as he holds shares in a group, not more than four being held together, and may purchase copyhold, freehold, or leasehold property or land, as may best suit his purpose, if well selected, repaying the advance in ten or twelve and a half years with its own rent; or the society will assist a member to build. The property purchased is mortgaged to the society as security for the money advanced, the repayments being at the rate of £8 or £10 per annum for each £100 advanced, by quarterly installments, or at the option of the member. The amounts so repaid aid the accumulations for future ballots. When every member has obtained his appropriation (and each member must have an appropriation), the subscriptions then (as per rule) are returned to the members, together with any profits which may be made by this society, and which were in one society (No. 24) alone as high as 36 per cent on the subscriptions received during the society's existence.

An important feature to borrowers in this society is that the full commercial value of property is lent; thus, if a member submits property for survey (he being entitled to £100 or more) and the surveyor reports it worth that sum, he will have the full amount advanced. No margin is required, as in other societies.

Selection of property.—A member obtaining an appropriation is allowed two months' time to select property, which may be situated where he pleases. Again, should he not wish to use it at the time, he may return it to the society, reserving to himself the right to claim the amount at any future time without charge (as per rule).

Building.—Members desirous of building their own houses may do so, advances being made according to the state of the building.

Selling.—A member obtaining an appropriation and not wishing to make use of it himself may sell it and his shares for a large premium. Hundreds of instances might be quoted where appropriations have been sold by members at large profits to themselves. The general cash value of an appropriated £100 share is £12, with all subscriptions returned.

Purchasing property or paying off mortgages.—The repayments may be made monthly or quarterly, and are really the rent; so, instead of paying the rent to his landlord, the member pays it to the society, and in ten or twelve and a half years every brick and stone in the building will be his own. How many are there who have paid rent to the landlord for the past twenty years (and will continue to do so for another twenty years, unless they join such a society as this) and yet do not own a single brick.

Purchasing appropriations.—Members not desiring to wait their turn of the ballot may purchase appropriations either for cash or, if more convenient, a deferred payment, the amount so offered to be repaid by installments with the principal—there being no subscriptions to pay on the advances for deferred payments (a new and important feature). The right to these advances may be bought on much better and cheaper terms than can be obtained from any ordinary permanent society.

Transfers, withdrawals, and deaths.—Members may transfer their shares at any time on payment of 6d., or withdraw their subscriptions after a certain date. In the event of the death of a member, subscriptions are returned within two months, if desired, in full; if, however, the relatives still wish to continue the subscriptions, they may do so.

Fines.—Everyone before joining a building society should ascertain what the fines are for nonpayment of subscriptions. The Starr-Bowkett fines are for one or two shares half a penny per week; for three or four shares, 1d. per week. These are not charged if a member pays as many weeks' subscriptions in advance as are in arrear at the time of payment. Thus, if three weeks' subscriptions are due and on the fourth subscription night seven are paid, no fines are inflicted. No fines are levied when a member is ill or out of employment.

Security.—The property is vested in the name of the society and the deeds deposited in a strong box at the society's bankers. All moneys are paid into the bank within forty-eight hours after being received; the accounts are examined annually by auditors appointed by the members. The members are the ruling body, as they elect the board of management and auditors annually from among themselves, every member having a vote.

Fees.—The solicitor's and the surveyor's fees are moderate, and in both cases limited by rule. The society is prepared, if necessary, to assist members in paying the solicitor's fees by advancing the required amount, repayable in twelve months, with 5 per cent interest.

Legal proceedings.—In no case has the board of management power to foreclose any mortgage, nor, in fact, to bring or defend any action at law unless with the consent of three-fourths of the members present at a meeting specially convened for that purpose. There is no instance on record of any workingman of a Starr-Bowkett building society having his mortgage foreclosed (and only a few speculative builders).

Working expenses.—The management is exceedingly economical, the working expenses being limited to 1s. 3d. per share per annum upon all unappropriated shares during the first five years from date of incorporation; from the fifth year to the seventh 1s. shall be charged; from the seventh to the tenth, 9d.; and after the tenth year 6d. only shall be charged. All appropriated shares shall pay 2s. for working expenses, and to be paid the first week in January in each year; it is only equitable; for those who get the early benefits should contribute more to pay expenses than others who must wait for their appropriations.

These are some of the special features in this society, and they must commend themselves to every thoughtful and reasonable person. It is the easiest and cheapest way to buy a house or to relieve oneself of a mortgage, and therefore it is hoped that many will avail themselves of the opportunity now afforded them.

Ladies may become members of this society, and parents wishing to make a provision for their children will find this society a very easy and ready means of doing so, by taking up shares in their children's names, thus combining the certainty of a well-secured savings bank with the probable chance of obtaining an appropriation and selling the same on their behalf at a large premium.

To youths and young men this society may become an invaluable means of self-help; many instances might be quoted where savings commenced early in life have, by the assistance of building societies, made their possessors independent for life.

To illustrate more fully the advantages of joining this society, the following examples are given:

To borrow £300 in most of the permanent building societies you must have property worth from £350 to £375; repayment, principal, and interest would average £38 for twelve and a half years; total cost, £475; besides the loss of interest upon the amount paid toward

the purchase of the property. In this society £300 is advanced in full for all appropriations by ballot; repayments per annum, £24; subscriptions, £3 18s.; twelve and a half years' repayments with subscriptions, £381 18s.; less subscriptions returned, £81 18s.; total cost, £300, as well as a share in the profits made. Comment would be superfluous. And the house you own absolutely rent free.

To a person wishing to purchase a house or raise £400 on the security of a house or piece of land already in his possession, the advantage of his obtaining £400 free of interest from this society in preference to borrowing it elsewhere, even at $4\frac{1}{2}$ per cent, is thus shown:

In twelve and a half years he would pay a private mortgagee for the loan of £400 at £4 10s. per cent, £225, and would still owe £400, making together £625. By joining this society he would obtain an appropriation of £400 free of interest for twelve and a half years, which he would draw in full, and repay at £32 per annum, in twelve and a half years, £400. Showing a positive and clear saving to the member of £225, and his house free from incumbrances.

During ten and a half years he would also pay 2s. per week subscriptions, but, as these are returnable at the close of the society, together with the member's share of the profits, they can only be regarded as enforced savings.

Over 1,000,000 shares have been issued by these societies, and thousands of persons have found the Starr-Bowkett societies the easiest and without doubt the cheapest, while in most cases the only, way of buying their houses to live in.

[Inclosure No. 3.]

THE ECONOMIC BUILDING SOCIETY—THE ONLY SOCIETY ENTIRELY MUTUAL IN ITS WORKING.

- (1) What are its leading features?
- (2) What are its special advantages?
- (3) What objects can be attained by joining?

To answer these three questions is the design of this pamphlet.

Before dealing with the leading features, it will be necessary to explain the method of working these societies. In a complete society there are four hundred groups of shares. Each group is formed of one, one and one-half, up to five shares. Members can take any number of shares, and hold any number from one to five shares in one group. Thus a member may take fifteen shares and hold them in five groups of three in each or three groups of five in each.

The subscription for each share is 6d. per week, and the holder is entitled to an advance of £100 in respect of such share. Thus if a person holding four shares in one group pays 2s. each week, he will be entitled to an advance of £400.

The method of making the advances is by ballot, and these advances are made as often as the accumulations of the subscriptions and other payments into the funds of the society will allow. All members who have paid their subscriptions up to the time of making the ballot have equal chance.

The ballot meetings are open and are conducted by the members themselves, and each member is bound to have an advance before the close of the society. The advances are repaid, without interest, at the rate of £6 per year for each £100, or about 2s. 4d. per week.

The full amount of the value of the property submitted as security is advanced. Thus a member wishing to purchase property with his balloted shares—say £300—has not to find an additional sum if the property offered is worth £300. In many societies a margin of £20 in every £100 must be secured, or £80 advanced on each £100 worth of property. The subscriptions and repayments of advances may be paid weekly, and in case of sickness, distress, or loss of employment the payments cease or the member may have relief. For neglect of payments fines are incurred, but they are very light and may be avoided by paying as much in advance as the arrears amount to.

Those members who do not desire to use their balloted shares may sell them to the society at once without advertisement or employing an agent. Some societies give £10 net for each £100 and return all subscriptions paid into the society by the member on the shares sold.

These shares are sold by the society at a large profit, and annually the members determine how these profits shall be distributed, after providing for a reserve fund. Some societies have had as much as £150 profit for one year from the purchase and sale of the balloted shares.

Now we will deal with the leading features of these societies and in doing so prepare the way for dealing with the special advantages.

(1) The repayments of advances are light, *i. e.*, £6 per annum for each £100, and in addition to this members may have subscriptions which they have paid on balloted shares placed to repayment account.

(2) Property may be redeemed at any time from mortgage without leaving any money in the society.

(3) The advantages resulting to the members who obtain the ballot early over those who obtain the ballot late are equalized by a sliding scale of bonuses. The ballots are charged with a bonus of 16s. per half share for the first year, 14s. per half share the second year, decreasing 2s. per half share each year until the tenth year, when 2s. per half share is received. Example: A member obtaining an advance by ballot during the first year of the society's existence of, say, one share and a half (£150) must pay a bonus of £2 8s.; this is the only payment. A member obtaining a like advance in the second year of the society's existence must pay a bonus of £2 2s.

(4) Members selling their balloted shares must sell to the society at a premium fixed annually, with the approbation of the members, at their general meeting. This arrangement prevents individuals from buying and selling shares, thus making large profits out of advantages which the members have mutually assisted to obtain.

(5) Special assistance is afforded to members in needy circumstances by advancing to them a portion of the subscriptions paid by them into the funds of the society, a small interest being charged for this advantage.

(6) Every help is afforded members who wish to purchase balloted shares from the society. Example: A member wishing to purchase £300 from the society at, say, £20 per £100—*i. e.*, £60 for £300—will receive £240 on property of that value without having to find cash beyond the amount of the subscriptions due on the three shares (and this amount he may borrow from the society at a small interest, or make arrangements with the directors for payment by installments). In other words, the premium is deducted from the amount to be advanced and security found for the balance.

(7) The profits resulting from the transactions of the society are dealt with annually by adding the amount to share capital after providing for a reserve fund.

(8) Members who have executed mortgages to the society, and through unforeseen circumstances are compelled to relinquish them, may transfer the same to the society at a price agreed upon with the board of directors.

(9) On the death of a member the legal representatives of such member receive all the subscriptions paid to the credit of the deceased and 5 per cent per annum interest.

These are some of the leading features of the Economic Building Society, all of which are peculiar to this society. These features have special advantages which require some explanation.

Complete mutuality is secured to the members. All societies, and especially building societies founded on coöperative principles, should be strictly mutual. The Economic is the only one which secures this strictly mutual element. All the advantages which arise in the workings of the society are secured to the members, and to the members alone—all are equal, and all share alike pro rata.

The advantages will be best understood by comparison with advantages offered by other investments.

Example 1.—Showing the advantage of the Economic over a permanent building society. To borrow £300 in most permanents you must have property worth £350. Repayments, principal, and interest would average from £27 to £30 a year for sixteen years; total cost, £432. In an Economic society only £300 worth of property is required. Repayments per annum for sixteen and two-thirds years, £18; total, £300. This example shows an advantage of £132, less the bonus paid, if the advance be made during the first year of the society's existence, of £4 16s. and working expenses of £4 4s.; total advantage, £123. Is any comment required?

Note.—The subscriptions paid are left out of the calculations, as the member would have £300, less the subscriptions, to pay back to the society. Thus the repayments at 6 per cent and the subscriptions will pay off the mortgage [in] a little over thirteen years.

Example 2.—Showing how, as an investment society, the Economic is superior to an investment at 5 per cent per annum. A member holding four shares pays 2s. weekly for sixteen years and eight weeks, £84. Say he obtains his advance, in sixteen years he receives a bonus of £5 12s. Sixteen years is taken in this example because in the worst view of the Economic it is an average time. He repays in seven years and twenty-four weeks, at the rate of £10 8s. per year per £100, £310 8s. He has then in the society £400. He has in twenty-three years and twenty-four weeks paid for his house and is possessed of a security that will continue to make a return or save a rent. Now, take an investment of 5 per cent per annum. In twenty-three years and twenty-four weeks, at 2s. per week, he will have deposited £122; interest at 5 per cent, say £72; total, £194. Thus a member in the Economic Building Society, if the last to receive his advance, is better off than the investor at 5 per cent by £206.

Example 3.—Showing the advantage of the Economic Building Society over the Starr-Bowkett Building Society. The Economic member pays 2s. weekly, entitling him to an advance of £400. Obtaining his advance in twelve years, he will have paid in subscriptions £62 8s.; he will receive a bonus of £2 8s.; he will then have a balance of £64 16s.; (£400 less £64 16s.) £335 4s. to pay back to the society. This will be paid, at 16s. per week, in about eight years; total, twenty years. He then receives his deeds and has concluded his connection with the society. The Starr-Bowkett member pays 2s. weekly, entitling him to an advance of £400. Obtaining his advance in the same time as the Economic member, he will have paid in subscriptions £62 8s., and will have to pay back to the society the £400 advanced at the rate of about 12s. 4d. weekly, in addition to the 2s. weekly in subscriptions, until the total subscriptions paid into the society amount to £109 4s. The repayment will take up twelve and one-half years. Total time, twenty-four and one-half years, and must leave in the society the subscriptions paid until three years before the winding up of the society. The difference in point of time is in favor of the Economic member by four and one-half years.

Example 4.—Showing the difference between the payments in the Economic and the Starr-Bowkett. The Economic member may repay his advance at the rate of £6 per annum for each £100 advanced. Three hundred pounds would purchase two houses yielding a net rental of, say, 8s. 6d. per week. Repayment on £300, 7s. per week; subscription on £300, 1s. 6d. per week. The rent of the houses will almost pay for them. There is no burden, and consequently no effort required in purchasing the houses. The Starr-Bowkett member repays his advance at the rate of £8 per annum for each £100 advanced. Taking £300 to purchase two houses at the same rental as before, his repayments would be 9s. 3d. per week; subscriptions, 1s. 6d. per week; total, 10s. 9d. The member will have to find 2s. 3d. per week besides the rent of the houses. In this case the advantage is in favor of the Economic by 2s. 3d. a week.

Example 5.—Showing the difference between the position of an Economic member and a Starr-Bowkett member who have each had an advance and wish to sell in a given time. Take any time—four, five, or six years. We will take five years as the time in each case.

The Economic member, selling at the end of five years his property which cost £300, supposing he got as much for it as he gave, would receive all the money he had paid, *i. e.*, five years' repayments, £90; five years' subscriptions, £19 10s.; and the value of his shares (which can be purchased by the society according to rule), say £20; total, £129 10s. The Starr-Bowkett member, selling under the same circumstances, would receive five years' repayments, £120; less redemption, £8 6s. per share, £24 18s.; this leaves £95 2s.; balance in favor of the Economic member, £34 8s.

Example 6.—Showing the advantages of an Economic over a private mortgage where the money is advanced at $4\frac{1}{2}$ per cent. In sixteen and two-thirds years a private mortgagee would receive for a loan of £300 at $4\frac{1}{2}$ per cent per annum £225; amount still owing, £300; total, £525. By joining this society he would have advanced £300 free of interest for sixteen and two-thirds years, £300; clear saving to the member of £225, and no incumbrance remaining. He would also be paying during the sixteen years and eight weeks 2s. per week subscriptions; but, as in example 1, these would be taken to repay the mortgage, he would be relieved from payment of all other sums in less than thirteen years.

Example 7.—Showing how the purchase of balloted shares is an advantage over an advance from a permanent society at 5 per cent. To purchase £300 in the Economic he would have to pay a premium of, say, £60. This amount would be deducted from the £300, leaving to be advanced £240. The repayments would be at the rate of £6 per cent per annum for sixteen and two-thirds years; total amount, £300. In a permanent society on £300 worth of property he would receive, say, £250. The repayments would be about £23 per annum for sixteen years; total amount, £368. The advantage in favor of the Economic is £68. As it is sometimes remarked that an advance may be had at any time from a permanent, so it may be said that balloted shares may be bought at any time from an Economic society.

Many more examples might be given showing the advantages offered by this society, but sufficient has been given to recommend it to the attention of the thrifty and philanthropic.

What objects can be attained by the society?

- (1) Members are enabled to make provision for old age.
- (2) To purchase or build houses for their own occupation or for investment.
- (3) To provide for their children a fund with which to commence life.
- (4) To provide for death a fund for the bereaved.
- (5) To encourage and cultivate thrift and economy in both young and old.
- (6) The society enables ladies to make a sound and safe investment in their own right and for their own use.
- (7) By this society the principle of complete mutuality and coöperation is attained.

Security to members.

(1) The security accepted by this society is of the best possible description, as all the funds are invested on freehold and leasehold land and houses and secured in all cases by mortgage.

(2) The members elect the board of management and an auditor, and all the officers of the society are interested as members in its welfare.

(3) All the members have the right to an inspection of the accounts, according to rule; and all moneys are paid into the bank in a few hours after receiving the same.

(4) The deeds of all property mortgaged to the society are deposited in a deed chest provided for the purpose and kept in a safe repository.

NOTTINGHAM.

The system of promoting the erection of dwellings and other houses by loan societies has been in vogue in Nottingham for more than fifty years, the first organization of this kind dating from 1838. During this time there have existed here, with more or less permanency, as many as twenty-two associations, a majority of which, however, have now gone into liquidation. These were of small capital comparatively, and, though useful to a certain extent and perfectly sound in their management, proved to be less profitable than their promoters had anticipated. In fact, the speculation of building in Nottingham has for the last ten years or more been overdone, the population of the town having, from the great depression of trade, fallen off considerably and the number of houses annually erected considerably diminished.

Of the loan associations now doing business the most important and substantial is the Permanent Benefit Society, organized in 1838 and reconstituted in 1850. A recent report shows that there were at date 11,334 shares held by 3,234 shareholders. Subscriptions received, £104,792; advances, £49,372; paid on shares realizing their ultimate value (including interest and bonus), £26,869, and £13,758 withdrawn; guaranty fund, £7,590.

The Nottingham and Midland Counties Building Investment Land Society, established in 1854, reports: Receipts, £3,986; cash advanced on mortgages and withdrawals, £4,682.

The Workingmen's Mutual Benefit Building Society is the oldest association of the kind in the county, and is conducted on the ballot-and-sale principle. It has about 600 members. Payments are 5s. per month on each share. There have been two hundred and fifty appropriations in ten years and £37,500 advanced to members, etc.; profit fund, over £6,000.

The Nottingham and Notts Workingmen's Benefit Building Society shares are £150 each; payments, 2s. 6d. per share. Repayments extend over nine years. Shares are appropriated by ballot or sale. There have been about one hundred and eighty appropriations since its establishment in 1874.

The St. Ann's Mutual Benefit Building Society was established in 1876. The shares are £150 each. Subscriptions are 2s. 6d., paid every alternate week. The advances to members have been about £10,000.

The Heathcote Mutual Permanent Benefit Building Society, established in 1877, is also conducted on the ballot-and-sale principle. The share capital now amounts to £173,000, and £30,000 have been advanced to members during the last ten years. About one hundred and fifty appropriations of £150 each have been allotted.

The Morley Permanent Building Society has 350 shareholders, and appropriations have been made amounting to nearly £7,500.

The Porchester Garden, Land and Building Society was formed a few years ago to allot an estate of 130 acres purchased from the Earl of Carnarvon.

There are about 600 members and 830 lots. Repayments have been made amounting to over £12,500.

The Starr-Bowkett Building Society has 500 members. The subscriptions are 6*d.* per week on each share of £100.

The Nottingham General Building Society is limited to 400 members. The entrance fee is 1*s.*; weekly subscription, 6*d.* per £100. Advances are repayable monthly at the rate of £8 per £100.

Thus it will be seen that the constitutions of all these societies are very similar, differing from each other only as to the terms of admission to membership and, in a few cases, as to the conditions of obtaining appropriations. They have all, so far as I can ascertain, been honestly and fairly conducted, and no instance of bankruptcy or failure from losses has occurred among the entire number. As regards the benefit they have been to laboring men and others of small means by enabling them to procure comfortable and permanent homes in a town where for several years the workingmen were distressingly crowded, there can be no question.

JOHN L. McKIM,
Commercial Agent.

NOTTINGHAM, *October 21, 1892.*

SHEFFIELD.

There are in this consular district many small building and loan societies which are incorporated under act of Parliament known as "the building societies act, 1874." These companies are of two classes, viz, permanent and terminating. The former class has no specified term of existence or date fixed for its final winding up, while the latter, by its rules and regulations, decides to terminate at a certain fixed date or when the result for which it was organized is attained. Inclosed herewith are copies of the rules and regulations of each of these classes of societies.*

The society which attained the greatest magnitude in this district was the South Yorkshire Permanent Building Society. In the year 1880 its membership numbered over 2,000 and its share capital was over \$750,000. In 1886 the society failed and brought widespread distress and disaster upon its shareholders and depositors. This failure was brought about by the careless business methods and the loaning of over \$500,000 of the society's funds upon the security of the Dunraven Colliery, in Wales. After years of long and tedious litigation and bankruptcy proceedings, this society received in return for the \$500,000 which it had spent on the colliery property the sum of £26,000 (\$126,529). The unfortunate shareholders lost every penny they had invested in the society, and its depositors were paid 1*s.* 8*d.* (\$3.81) on the £1. The committee of investigation, consisting of four shareholders and four depositors of the society, have but recently

* Filed in the Department.

finished their labors, and conclude their report with the following suggestions, which are of great practical value:

The committee feel that their report would not be complete without some allusion to the disastrous and far-reaching consequences resulting from the failure of such societies as the South Yorkshire and others. Members of building societies consist for the most part of comparatively poor but thrifty working men and women—trustful people who are generally unable to clearly comprehend financial matters and balance sheets and are easily misled by plausible advertisements and prospectuses. At general meetings members are to a great extent disorganized and helpless and have little or no part in considering resolutions submitted to them, resolutions which are often cut and dried before the meeting assembles. If building societies were conducted on the principles on which they are professed to be conducted, and if the promoters and directors did their duty, they could hardly fail. The two main causes of building societies' disasters are shown to be: (1) The making of large loans on highly speculative properties, and (2) the fact that the directors are not compelled to show in their balance sheets how many borrowers from the society are in arrears with their payments.

It is submitted that if building societies were prohibited from lending on any mortgage except a first mortgage; from lending on any property except agricultural land or houses or sale shops; from lending more than, say, £2,000 on any property; and were compelled to show in each annual balance sheet how many borrowers were in arrears with their payments, and the amount of such arrears; and were also bound to forward copies of their balance sheets to all depositors; and if the registrar of building societies had power, at the request of a certain proportion of the members or depositors, to order an official audit of the societies' accounts, there would be very little risk of any serious disaster overtaking any building society.

The greatest failure that has ever taken place in building and loan companies in Great Britain was that of the Liberator Building Society, of the city of London. It was a permanent society, incorporated in the year 1874, and it went into liquidation in 1892. At the time of its collapse it was the largest in the Kingdom. It numbered 11,835 members on December 31, 1891, and the following is a statement of its liabilities and assets on that date:

Assets:

Balance due on mortgage securities.....	\$16,658,389.62	
Amount invested in other securities and cash.....	325,534.78	
		\$16,983,924.40

Liabilities:

Due to holders of shares.....	8,083,572.82	
Due to depositors and other creditors.....	8,422,651.07	
		16,506,223.89
Balance of unappropriated profit.....		477,700.51

This society purchased land and erected magnificent piles of buildings in the city of London and on the Thames embankment, which cost millions of pounds sterling and are to-day offered at one-half the amount expended upon them. The society numbered among its directors a member of Parliament, who is now in exile in consequence of criminal proceedings against him as such director. Other members of the board of directors have been tried for misappropriation of the funds of the society and sentenced to long periods of penal servitude. An investigation into the affairs of the society is still going

on, but there is little expectation that the shareholders will receive anything in the way of dividends. The causes of this failure are plainly attributable to the fraud, forgery, and thefts of certain of its officials.

The forwarding of this report has been delayed in the hope that a full statement in regard to the financial affairs of the Liberator Society might be obtained and included herein, but this matter must be left to my successor in office.

Parliament now has before it a bill to amend the building societies acts, which has been framed for the purpose of obviating existing evils and affording greater protection to the shareholders in such societies. It provides for the inspection of books, punishment for making false entries, and increases the obligations of liquidators and trustees in case of dissolution.

Inclosed herewith are copies of (1) the building societies act, 1874, with subsequent amendments; (2) a return of building societies incorporated under the building societies acts which have terminated or been dissolved or have otherwise ceased to exist; (3) a return of an abstract of the accounts furnished by building societies incorporated to the 31st day of December, 1891, including Great Britain and Ireland, under the building societies acts; (4) the seven reports made by the liquidators of the Sheffield and South Yorkshire Permanent Building Society upon the affairs of the society.*

BENJAMIN FOLSOM,

Consul.

SHEFFIELD, *July 14, 1893.*

IRELAND.

DUBLIN.

Within later years the number of building societies in Dublin has been considerably increased, owing, no doubt, to the erection of large numbers of houses in the city and the surrounding suburban townships and the frequent interchange of the proprietary interests in them.

The building societies here are of two classes—permanent and terminating.

The building societies act of 1874, which is the law regulating building societies, defines a permanent society as one “which has not by its rules any fixed date or specified result at which it shall terminate.” In a permanent society the funds are raised upon shares held by the members, and also by means of deposits or loans to the society received from members and outsiders. Shares may be either paid up in full at the time when they are taken, or the holder may make periodical subscriptions on them for a fixed term of years in accordance with the terms of the rules, or subscriptions may be paid at irregular intervals to suit the convenience of the investor. Inter-

* Filed in the Department.

est is allowed upon the amounts paid in, and, where the subscriptions are paid monthly or at irregular dates, the time for the completion of the shares on which they are made is shown in the tables of the society. Generally the interest is allowed to accumulate, but it may be paid out yearly or half-yearly. Advances are made to members out of the funds, and are repayable by small periodical installments extending over fixed terms of years secured by the mortgage of the property purchased, etc. The rules generally give a borrower the choice of several terms at the time of receiving his advance. The repayments are calculated to recover principal and interest, so that at the end of the agreed term everything has been paid off. Losses, if any there be, fall exclusively upon the investing members, who, in the earlier societies formed on the permanent plan, were alone entitled to a share of the profits, if any. The keen competition for business which has been induced by the increase in the number of societies has of late years caused a change in this mode of dealing with profits, which are now commonly shared with the borrowers under a system of bonuses. No change has, however, taken place in the way of apportioning losses; these still fall exclusively upon the investors in permanent societies.

Practically, a good permanent society discharges the functions of a land-mortgage bank. On the one hand, it receives money in such a variety of ways as to meet the requirements of all classes of investors, and at a rate of interest, it is true, more than ordinary lenders would require, but granting facilities for repayment which ordinary mortgages could not afford. No back payments are necessary from investors or borrowers, because no fixed time is prescribed for the close of the society. Investors can always learn the exact length of time during which they will have to continue their subscriptions if the regular payment be enforced by fines, and it is always comparatively easy to ascertain the amount to which an investing member who may wish to withdraw is entitled.

To the borrowers the permanent system offers still greater advantages, for it enables them to extend their repayments over terms of years suited to their pockets at their own choice, with the absolute certainty of clearing their property from incumbrances and freeing themselves from further liability at the end of the term selected, while they know that their mortgages can be redeemed at any time before the expiration of the term on payment of a sum which can be easily determined whether the society be successful or not. The fact, also, that the repayment of the amount advanced can not be enforced except on the installments for the period selected is probably the greatest advantage. Should, however, the borrower fall into arrears with his installments, the societies can enforce payment of the whole amount under the terms of their mortgage, sell the premises secured to them, and the balance, after payment of the amount ascertained to be due by the defaulting borrower, is handed over to the person entitled to it.

The stability of any building society, whether permanent or terminating, depends practically upon the kind of security it accepts and the way in

which the borrowers make their repayments. Generally speaking, all building societies lend only two-thirds of the market value of the property, whether land or houses, secured to them.

The following are excerpts from the prospectus of the largest permanent building society in this city:

THE IRISH CIVIL SERVICE PERMANENT BUILDING SOCIETY.

The society makes advances on the security of freehold or leasehold property on the valuation of their surveyor, or other satisfactory evidence of value, repayable by installments, in which both principal and interest are included. The society is also prepared to advance sums for short periods at a fixed rate of interest, the principal to be repaid in one sum at the end of the time, or by such installments as may be agreed upon. The object of the loan may be the building or purchase of houses, redemption of mortgages, the replacing of capital sunk in building or purchasing, etc.

REPAYMENT OF ADVANCES.

Monthly and quarterly repayments in respect of each sum of £100 advanced for the periods specified.

Term of years.	Applicable to ordinary loans.		Applicable to loans on well-circumstanced house property, with large margin of security.	
	Monthly repayments.	Quarterly repayments.	Monthly repayments.	Quarterly repayments.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
5.....	2 0 8	6 2 0	1 19 5	5 18 3
6.....	1 15 0	5 5 0	1 13 11	5 1 9
7.....	1 11 0	4 13 0	1 9 10	4 9 6
8.....	1 7 11	4 3 9	1 6 10	4 0 6
9.....	1 5 7	3 16 9	1 4 7	3 13 9
10.....	1 3 9	3 11 3	1 2 8	3 8 0
11.....	1 2 3	3 6 9	1 1 2	3 3 6
12.....	1 1 0	3 3 0	0 19 11	2 19 9
13.....	1 0 0	3 0 0	0 18 10	2 16 6
14.....	0 19 1	2 17 3	0 18 0	2 14 0
15.....	0 18 4	2 15 0	0 17 2	2 11 6
16.....	0 17 7	2 12 9	0 16 6	2 9 6
17.....			0 15 11	2 7 9
18.....			0 15 5	2 6 3
19.....			0 15 0	2 5 0
20.....			0 14 6	2 3 6

The society's transactions extend to all parts of Ireland, and at the present date (July, 1892) over one and a quarter million sterling has been advanced on mortgage.

In landed-estates-court purchases the amount agreed to be lent is lodged by the society in court on the borrower signing an agreement to execute a mortgage immediately he obtains his conveyance from the court.

In the case of building loans the money is advanced by installments as the work progresses on the certificate of the society's surveyor.

In comparing the society's system with that under an ordinary mortgage, it should be borne in mind that to most persons it is far easier to repay a loan by small installments than to pay the whole in one sum, for which purpose a borrower is often compelled to sell his property, and sometimes at a great sacrifice.

Among other advantages offered by the society are the following:

(1) That while it has no power to call in any amounts advanced, so long as the installments are punctually paid, yet the borrower can at any time clear off the loan by paying a small redemption fee in addition to the balance of principal due at the time.

(2) When loans are paid off, either by payment of the stipulated installments or by redemption in a bulk sum, the society grants a release of the mortgage free of charge, while the reconveyance of an ordinary mortgage would cost about £10.

SHORT LOANS.

In order to meet the demand for temporary accommodation, the board are prepared to entertain applications for loans for periods not exceeding twelve months, upon specially favorable terms as regards interest and costs. This, they anticipate, will prove a great boon to parties requiring money for short periods only, who are thereby saved the expenses incidental to an ordinary mortgage.

DEPOSIT DEPARTMENT.

The society receives money on deposit in sums from £5 upwards, withdrawable on short notice; and interest is allowed thereon at such rates as the directors shall from time to time appoint.

With a view to meet the requirements of depositors who desire to make investments of a more permanent character, at better rates of interest than are obtainable on ordinary deposit receipts, the society issues "deposit bonds" for sums of not less than £50 each, repayable at such periods as may be desired—not less than one year—with half-yearly coupons attached for the interest. The "deposit bonds" are repayable only to the lenders, their executors, administrators, or assigns, and are transferable by indorsement, according to the form provided by the society, free of charge. They are therefore a most eligible security for trustees or others requiring permanent and safe investments. The rates of interest on bonds payable in one year are generally one-half of 1 per cent in excess of the ordinary deposit rate, and on bonds payable in two or more years 1 per cent over that rate. Interest once fixed on a bond can not be varied during its continuance.

Current accounts are opened and check books supplied, interest being allowed on the minimum monthly balance at 1 per cent below the ordinary deposit rate.

To the depositor the following guaranties are given, viz:

The paid-up capital is over £135,000.

The society in making advances is restricted by act of Parliament to mortgages of freehold or leasehold properties.

The entire amount received on deposit can not, under the act of Parliament, exceed two-thirds of the amount secured to the society by mortgage.

DEPOSITS.

The act of 1874 limits the total amount to be received on deposit or loan, and not repaid by the society, to two-thirds of the amount for the time being secured to the society by mortgage from its members. This enactment is to secure the general stability of such societies. Much must depend, however, upon the regulations under which deposits have been received, and it is manifestly imprudent for directors to receive large deposits, even when well within the borrowing power under the act, and to invest them in securities from which they can not readily be withdrawn, while the deposit funds are withdrawable practically on demand or on the notice of withdrawal, usually very short, regulated by the rules of each particular society.

TERMINATING BUILDING SOCIETIES.

These societies are based upon the principle of a common fund, formed by the mutual contributions of the members, out of which advances are made to members, and to members only, on mortgage securities. The subscriptions or contributions take the form of regular weekly or monthly payments, varying in amount according to the interest which each member takes in the society. The object is to give to every member a cash payment equal to the nominal value of the shares held by him. In the societies of this character in Dublin when sums become available for investment they are allotted to applicants by ballot and by sale alternately. One sum is offered at a premium and the next appropriated by ballot, a member who is fortunate enough in the ballot receiving his advance in full, without a premium or interest, the repayment of which is secured by mortgage on the premises purchased or redeemed by the advance. The appropriation can also be transferred, that is, the member who by the ballot is entitled to the advance may, if he does not himself desire an advance or is willing to forego his right, assign it to some other member who pays a sum equal or nearly equal to the premium paid to the society by other members. The effect of this is that the member who succeeds in the ballot secures a valuable money prize. These societies are thus rendered a species of lottery, and the element of speculation thus introduced appears to present great attractions to many minds, although it is foreign to the original scheme of building societies.

The societies being mutual in their operations, all the members share alike in the profits, if any be made, or bear their due proportion of the losses, if any accrue.

In both permanent and terminating building societies fines are imposed by the rules on arrears of subscription on shares and of repayment of instalments on advances.

The building societies act of 1874, which, as I have already stated, is the law regulating societies of this nature, contains a schedule of certain matters as to which the rules of every society must provide. They are as follows:

(1) The name of the society and the chief office or place of meeting for the business of the society, to which should be added the manner in which the chief office may from time to time be changed.

(2) The manner in which the stock or funds of the society are to be raised, the terms upon which paid-up shares (if any) are to be issued, and repaid, and whether preferential shares are to be issued, and if so, within what limits (if any), and whether the society intends to avail itself of the borrowing powers contained in the act, and, if so, within what limits, not exceeding the limits prescribed by the act. The limits are as follows:

If the society be permanent, the total amount received upon deposit or loan and not repaid by the society must not at any time exceed two-thirds of the amount for the time being secured to the society by mortgages from its members; if the society be terminating, the total amount so received and not repaid may either be a sum not exceeding such two-thirds as aforesaid or a

sum exceeding twelve months' subscriptions on the shares for the time being in force.

(3) The purposes to which the funds of the society are to be applied and the manner in which they are to be invested. The investments described by the rules may be real or leasehold securities, the public funds, any Parliamentary stock or securities, payment of the interest on which is guaranteed by authority of Parliament, or, in the case of a terminating society, with other societies under the act. For the purpose of investments, the rules may make provision for the appointment of trustees.

(4) The terms upon which shares may be withdrawn and upon which mortgages may be redeemed.

(5) The manner of altering and rescinding the rules of the society and of making additional rules.

(6) The manner of appointing, remunerating, and removing the board of directors or committee of management, auditors, and other officers.

(7) The manner of calling general and special meetings of the members (in doing this care should be taken to fix the number necessary to form a quorum).

(8) Provision for an annual or frequent audit of the accounts and inspection by the auditors of the mortgages and other securities belonging to the society.

(9) Whether disputes between the society and any of its members or any person claiming by or through any member or under the rules shall be settled by reference to the court (*i. e.*, the county court), or to the registrar, or to arbitration.

(10) Provision for the device, custody, and use of the seal of the society, which must in all cases bear the registered name thereof.

(11) Provision for the custody of the mortgage deeds and other securities belonging to the society.

(12) The powers and duties of the board of directors, or committee of management, and other officers.

(13) The fines and forfeitures to be imposed upon members of the society.

(14) The manner in which the society, whether terminating or permanent, shall be terminated or dissolved; and in a schedule to the rules the society may prescribe the forms of conveyance, mortgage transfer, agreement, bond, security for deposit or loan, or other instrument necessary for carrying its purposes into execution.

In order to give validity to the rules and to establish a society upon a legal basis, it is necessary to obtain a certificate of incorporation. This is obtained from an official called the registrar of friendly societies should, after examination, the rules be in accordance with the provisions of the act. The certificate under the act makes the society a body corporate by its registered name, having a perpetual succession, until terminated or dissolved in manner provided by the act, and with a common seal.

From the last report of the registrar of building societies I append a list of the societies operating in Ireland, with such statistics as may be useful to the Department.*

ALEX. J. REID,
Consul.

DUBLIN, *October 17, 1892.*

SCOTLAND.

DUNFERMLINE.

Responding to Department circular of September 16, 1892, the following history of the first building company or society established in this consular district and still existing is submitted.

The company was instituted in April, 1869. At that time the trade of Dunfermline was in a state of transition from the hand-loom weaving system, which prevailed through Scotland, to the introduction of machinery backed by large capital. Houses were scarce, and a large proportion of the houses of the workmen were hovels—small and comfortless. In spite of much prophecy of ruin and failure, men of wealth and influence gave practical encouragement to the scheme, which had as its aim the promotion of habits of thrift, personal independence, and good homes.

The circular of the society makes the following statement :

THE DUNFERMLINE BUILDING COMPANY (LIMITED), INCORPORATED UNDER THE BUILDING SOCIETIES ACT, 1874.

The company was instituted in 1869 for the purpose of creating a better class of dwelling houses for working people resident in the burgh, to encourage and to enable members to have properties erected and allotted on easy terms, and, when paid up, assigned to themselves ; also, at the same time, to encourage and promote habits of independence, industry, and thrift in the general community. The success which has attended the company in these respects is apparent. First-class houses have been erected and purchased in all parts of the town and district. While several remain in the hands of the company, still by far the greater proportion has been allotted, and in many instances already paid up and dispositions granted in favor of the allottee. There are at present (1888) fifty-four allotments in process of paying up, all in a fair way of getting possession and titles in the near future. Many, it is considered, would never have possessed properties had not the incentive, the facility, and the aid been provided by the company. The company is conducted wholly, and supported mainly, by the working portion of the community. Its aim in management is economy. Money is advanced to members on most favorable terms, more importance being attached to this than to the catering for large profits in order to provide for a big dividend at the close of each year. While a preference is given to assist allottees, etc., still the company, by its economical working, has always been able to declare a profit to investors as good as can be got in the district. The financial position of the company is good. The whole of the capital is invested in first-class heritable securities, consisting of dwelling houses and feu superiorities, besides an ever-growing reserve fund to provide against unforeseen contingencies which may arise. Since the formation of the company it has been eminently successful. It has steadily and rapidly de-

* See Appendix, p. 141.

veloped into usefulness and popularity and continues to maintain the entire confidence of the members. It is therefore earnestly desired that workmen and others requiring assistance to erect or to purchase existing property should, in their own interests, consult with the company before fixing anywhere else.

With the view of placing in a convenient form all necessary information regarding the working of the company, its business hours, terms to borrowers, conditions of allotment, and hints to members in general, the following abstract has been drawn up:

The office is open on the evening of each date in share book from 6 to 8:30 for the purpose of receiving payments upon shares, payments upon allotments, and other money transactions; also, joining new members and adding or withdrawing shares.

The directors meet in the office on the evening of the Thursday preceding each date in share book from 7:30 for the transaction of business.

The value of one share is £5. No member can hold more than forty shares, and the liability is limited to the amount held by each member. Members desirous of withdrawing share capital should apply in writing to the secretary previous to the meeting of directors, stating the number of shares and when the money is wanted, giving number of book, with name and address. Members applying ought to appear personally and sign receipt for amount withdrawn. Those who can not come personally must state in writing whom they authorize to uplift the money and sign the receipt for same.

Before shares can be withdrawn the number originally taken out must be paid up. Parties unable to do this may sell the same to anyone, to whom they will be transferred in accordance with rules 18 and 19 for the fee of 6d.; or they may be purchased by the company.

Shares may be held by husband and wife. A man holding shares may have his wife's name enrolled as holding the same shares conjointly with himself, which, in the event of the decease of either, become the sole property of the survivor.

At the end of each year profit is calculated quarterly upon the sum standing at the commencement of each quarter, which is shown by a line in share book.

The attention of intending allottees is particularly drawn to the subjoined rules regarding the terms and conditions of allotments. By following the course pointed out much trouble and expense will be saved.

Parties applying for an allotment in the form of having a house erected must have at least 10 per cent of the estimated cost deposited as share capital, which sum will be deducted, if desired, from the total cost after all the accounts are paid; and the interest will be calculated on the reduced amount.

With the assistance of the proposed allottee, the directors will proceed to have the ground secured and instruct their architect to prepare plans and specifications as desired. When done in this way, the architect's fees are 2½ per cent.

Estimates are then taken in and opened by the directors, the allottee being present, who generally has the choice of the tradesmen, the lowest offerer as a rule being accepted. Money is advanced to the tradesmen as the work proceeds, interest being charged from the date on which the different payments are made. After the house is completed and the total cost ascertained, the property is then allotted in accordance with the rules and table of periods and payment.

If allotted for the longest period, a yearly rent charge of £7 per hundred of the cost is made, or £1 15s. per quarter. Interest and insurance are included in this charge, which clears off all debt in twenty-four and three-fourths years.

Allottees may at any time pay more than the rent charge agreed upon, thereby shortening the period of payment. At the end of each quarter all money paid above the interest due will be deducted from the principal sum and the interest charged on the reduced amount.

Members desiring an advance to purchase existing property to be repaid on the allotment principle can have such on the above terms, only the directors reserve power to ask that a larger sum than 10 per cent of the purchase price be deposited, according to the situation and repair of the property, which sum will be deducted from the amount paid when allotted.

The directors also advance money to members on bond and disposition in security, interest not exceeding 5 per cent per annum, the borrower paying insurance and all legal expenses.

Table showing the rate of payment of a house of the value of £100, including interest and insurance, for periods from ten and three-fourths to twenty-four and three-fourths years.

Period of payments.	Annual.	Quarterly.
10¾ years.....	£12	£ s. 3 0
12 years.....	11	2 15
13¾ years.....	10	2 10
16 years.....	9	2 5
19½ years.....	8	2 0
24½ years.....	7	1 15

The history of the company has been one of unbroken prosperity. A large number of persons have acquired superior dwellings. Many who contracted with the company with some fears as to their ability to fill their engagements have surprised themselves by readily repaying their indebtedness and even adding other property within half of the original time agreed upon. Besides enabling members to become owners of substantial and superior dwelling houses, the directors believe that the company has done beneficial work in the creation of a spirit of thrift and honorable ambition through them on the whole community.

PROFITS.

The company is largely used as a bank. A dividend or profit of from 4 to 5 per cent has always been paid on paid-up shares.

During the past thirteen years members have drawn from the society about \$320,000. The amount paid during the same period on each share of \$120 amounted to \$87.50, leaving a net profit per share of \$32.50. The present number of members is 512.

PAYMENT OF INTEREST.

Those who have houses allotted to them pay interest at the rate of 5 per cent per annum, but in some cases, when the borrowed amount is large, the rate of interest is reduced. Allottees' books are balanced quarterly, and whatever sum has been paid in during one quarter over the interest due that quarter is deducted from the principal, thus reducing interest on the following quarter. No restriction is put on the allottee from getting his loan paid up. He can pay in as fast as he is able.

Besides balancing allottees' transactions quarterly, the company pays insurance on property in case of fire and pays half the expense of transfer of title after the loan is paid up. The value of property thus allotted at the end of the last financial year (the twenty-third) amounted to about \$100,000. The property unallotted and owned by the company is worth about \$34,000.

Altogether over two hundred houses have been built or purchased for members since the formation of the company. Every installment paid on loans, of course, adds to the safety of the company as holder. The property wholly owned by the company and in first-class condition amounts to \$32,000. A certain amount of the yearly profits is used to reduce the registered cost of this property in case of any necessity arising to realize by their sale. Most of the property thus owned yields a profit of 5 per cent.

The only real danger to the company is in the case of properties on which sums have been advanced on bond. Great care is taken to advance largely within the value and see that the property is not allowed to depreciate by neglect.

Over and above all these precautions, a reserve fund of about \$2,000 is maintained and added to as opportunity offers.

GENERAL STATEMENT.

Time.	Profits.	Value of property.	Number of members.	Shares.
	£ s. d.	£ s. d.		
First 5 years.....	489 8 5	3,893 3 3	286	1,555
Second 5 years.....	2,068 15 6	9,022 8 5	458	2,757
Third 5 years.....	3,003 6 8½	13,414 13 3	554	3,883
Fourth 5 years.....	3,596 17 10	20,727 1 10	743	4,958
Twenty-first year.....	998 8 6	24,259 11 11	855	5,506
Twenty-second year.....	1,272 19 1	26,864 12 1	1,006	5,937
Twenty-third year.....	1,337 9 11	35,716 0 11	1,218	7,396
Total.....	12,767 6 4½			

JAMES D. REID,
Commercial Agent.

DUNFERMLINE, *December 20, 1893.*

EDINBURGH.

HISTORY.

The history of building societies in Great Britain dates as far back as 1795, at which time they were known in Birmingham as "building clubs." The earliest in Scotland was one established in Kirkcudbright in 1825. The oldest one established in Edinburgh is the Improved Edinburgh Property Investment Building Society, which was instituted in the year 1847. The chief object of this company is to enable members to acquire heritable property or to pay off bonds by which property may be burdened.

Building societies in Great Britain number 2,869. They have increased tenfold during the last fifteen years, with funds amounting to \$260,000,000. They are under less efficient control than other institutions formed to encourage thrift; no fewer than 1,237 have failed since the year 1875. British

essayists express the hope that recent events, especially the disastrous failure of the Liberator Building Society, will speedily result in placing all such companies under at least as stringent regulations as those affecting life assurance offices and friendly societies generally. Annual returns of detailed revenue accounts and balance sheets, professional audits, and valuations are among the requirements which are now generally regarded as indispensable; and these would undoubtedly go a long way toward protecting the interests of those who place their savings in this channel of investment.

The building societies have been organized under a statute which was passed for the purpose of encouraging thrifty habits among the working classes. Since this enactment several thousands of these societies have come into existence; and, according to the most recent return issued by the House of Commons, they had absorbed in England alone about \$250,000,000 of the people's money and had enrolled 700,000 members. But within a very short period there have been no less than eight failures of building societies and their banking adjuncts. The credit (if such a term may be used) of the building-society institution has been fairly well covered by the stability of the Birkbeck Bank, which, notwithstanding a run upon it of the most determined character, emerged from the ordeal with flying colors. That institution, like some others, had deviated from the building-society business into that of banking, and the former class of business now forms only a very insignificant item of the whole.

DEFECTS IN THE SYSTEM.

It has been observed by British writers that it seems inconsistent for a building society to attempt to receive deposits repayable at any moment. That is the business of a bank, and such an institution accordingly keeps a certain proportion of its assets in ready cash. The business of a building society is to enable its members to become possessed of heritable property, and accordingly its funds are locked up in mortgages of a fixed nature. The two classes of business are quite irreconcilable. It is very generally admitted in Great Britain that the law governing friendly (building) societies stands in need of amendment in several radical particulars. According to present practice, it appears that registration is largely optional on the part of promoters, and it further appears that the very necessary censorship partially conferred by statute upon the registrar is a dead letter. There is no provision for the compulsory return of particulars at stated periods showing liabilities and assets up to date. Such returns should be uniform as to manner, and it should be made an offense against the law to delay their production beyond a specified date. Another serious defect of the present law often referred to is that an audit has been but partially provided for. At present most of the societies employ such auditors as they choose. These men may or may not be qualified for the duty. The real value of the investments and securities should be investigated, as well as their nominal value, for it need hardly be said that securities vary much in their cash values.

LOAN SOCIETIES.

Loan societies (strictly so called) are comparatively few. Loans may be granted to members of friendly societies under the act of 1875 governing friendly societies (clause 18); loans may be granted, also, to members of building societies upon freehold, copyhold, or leasehold estate by way of mortgage, agreeably with clause 13 of the building societies act, 1874; and loans may be made to members of societies registered under the industrial and provident societies act, clause 12, on security of real or personal property.

CLAUSE 18.

With respect to loans to members of registered societies, the following provisions shall have effect :

(1) Not more than one-half of the amount of an assurance on the life of a member of at least one full year's standing may be advanced to him, on the written security of himself and two satisfactory sureties for repayment; and the amount advanced, with all interest thereon, may be deducted from the sum assured, without prejudice in the meantime to the operation of such security.

(2) A society may, out of any separate loan fund to be formed by contributions or deposits of its members, make loans to its members on their personal security, with or without sureties, as may be provided by the rules, subject to the following restrictions :

(a) No loan can at any time be made out of moneys contributed for the other purposes of the society.

(b) No member shall be capable of holding any interest in the loan fund exceeding £200.

(c) No society shall make any loan to a member on personal security beyond the amount fixed by the rules, or shall make any loan which, together with any moneys for the time being owing by a member to the society, shall exceed £50.

(d) No society shall hold at any one time on deposit from its members any moneys beyond the amount fixed by the rules, which shall not exceed two-thirds of the total sums for the time being owing to the society by the members who have borrowed from the loan fund.

CLAUSE 12.

With respect to the property and funds of registered societies, the following provisions shall have effect :

(1) A society may (if its rules do not direct otherwise) hold, purchase, or take on lease in its own name any land, and may sell, exchange, mortgage, lease, or build upon the same (with power to alter and pull down buildings and again rebuild), and no purchaser, assignee, mortgagee, or tenant shall be bound to inquire as to the authority for any such sale, exchange, mortgage, or lease by the society, and the receipt of the society shall be a discharge for all moneys arising from or in connection with such sale, exchange, mortgage, or lease.

(2) The rules may provide for the advancing of money by the society to members on the security of real or personal property.

(3) Where any society is entitled in equity to any hereditaments of copyhold or customary tenure, either absolutely or by way of mortgage or security, the lord of the manor of which the same are held shall from time to time, if the society so require, admit such persons (not to exceed three) as such society appoints, to be trustees on its behalf, as tenants in respect of such hereditaments, on payment of the usual fines, fees, and other dues payable on the admission of a single tenant, or may admit the society as tenant in respect of the same on payment of such special fine or compensation, in lieu of fine and fees, as may be agreed upon between such lord and the society.

(4) A society may, if its rules so allow, invest any part of its capital in the shares or on the security of any other society registered under this act or under the building societies acts,

or of any company registered under the companies acts or incorporated by act of Parliament or by charter, provided that no such investment be made in the shares of any society or company other than one with limited liability, and a society so investing may make such investment in its registered name and shall be deemed to be a person within the meaning of the companies acts, 1862 and 1867, and the building societies act, 1874, and any investment made before the passing of this act which would have been valid if this act had been then in force is hereby made valid and confirmed.

(5) Any other body corporate may, if its regulations permit, hold shares by its corporate name in a society.

(6) In the rules or any schedule thereto may be set forth the forms of conveyance, surrender, admittance, mortgage, transfer, agreement, bond, or other instrument necessary for carrying the purposes of the society into effect.

(7) The profits of the society may be applied to any lawful purpose.

(8) A receipt under the hands of two members of the committee of the society, countersigned by the secretary, in the form contained in the third schedule to this act, or in any form specified by the rules of the society or any schedule thereto, for all moneys secured to the society by any mortgage or other assurance indorsed upon or annexed to such mortgage or other assurance, shall vacate the same, and vest the property therein comprised in the person entitled to the equity of redemption of the same, without reconveyance or resurrender; but this provision shall not apply to Scotland or to the island of Jersey.

(9) If such mortgage or other assurance has been registered under any act for the registration or record of deeds or titles, or is of copyhold or lands of customary tenure and entered on any court rolls, the registrar under such act, or recording officer, or steward of the manor, or keeper of the register, shall, on production of such receipt, verified by oath of any person, enter satisfaction on the register or on the court rolls respectively of such mortgage or of the charge made by such assurance, and shall grant a certificate, either upon such mortgage or assurance or separately to the like effect, which certificate shall be received in evidence in all courts and proceedings without further proof, and such registrar, recording officer, steward, or keeper of the register shall be entitled to a fee of 2s. 6d. for making the said entry and granting the said certificate, and such fee shall in Ireland be paid by stamps, and applied as the other fees of the registry of deeds office and record of title office are by law directed to be paid and applied.

(10) If any person obtains possession by false representation or imposition of any property of a society, or having the same in his possession withholds or misapplies the same, or willfully applies any part thereof to purposes other than those expressed or directed in the rules of the society and authorized by this act, he shall, on the complaint of the society, or of any member authorized by the society, or the committee thereof, or by the central office, or of the chief registrar, or any assistant registrar by his authority, be liable on summary conviction to a penalty not exceeding £20, with costs not exceeding 20s., and to be ordered to deliver up all such property or to repay all moneys applied improperly, and in default of such delivery or repayment, or of the payment of such penalty and costs aforesaid, to be imprisoned, with or without hard labor, for any time not exceeding three months; but nothing herein contained shall prevent any such person from being proceeded against, by way of indictment, if not previously convicted of the same offense under the provisions of this act.

CLAUSE 13.

With respect to officers of registered societies having receipt or charge of money, the following provisions shall have effect:

(1) Every officer, if the rules of the society require, shall, before taking upon himself the execution of his office, become bound, either with or without a surety as the committee require, in a bond according to one of the forms set forth in the third schedule to this act, or such other form as the committee of the society approve, or give the security of a guaranty society, in such sum as the committee directs, conditioned for his rendering a just and true

account of all moneys received and paid by him on account of the society at such times as its rules appoint, or as the society or the committee thereof require him to do, and for the payment by him of all sums due from him to the society.

(2) Every officer, his executors or administrators, shall, at such times as by the rules of the society he should render account, or upon demand made, or notice in writing given or left at his last or usual place of residence, give in his account as may be required by the society, or by the committee thereof, to be examined and allowed or disallowed by them, and shall, on the like demand or notice, pay over all moneys and deliver all property for the time being in his hands or custody to such person as the society or the committee appoint; and in case of any neglect or refusal to deliver such account, or to pay over such moneys or to deliver such property in manner aforesaid, the society may sue upon the bond or security before mentioned, or may apply to the county court (which may proceed in a summary way), or to a court of summary jurisdiction, and the order of either such court shall be final and conclusive.

The savings of the working classes in this country are intrusted chiefly to four channels of investment—building societies, friendly societies, savings banks, and industrial insurance companies. Probably 12,500,000 is the number of individuals availing themselves of these various aids to thrift, and \$1,100,000,000 is the total amount to their credit.

The following figures indicate the amounts of savings in the hands of friendly, industrial, and building societies in England and Wales at the end of 1891:

Description.	Number in existence.	Number of returns.	Number of members.	Amount of funds.
Building societies.....	2,752	2,333	605,388	\$252,911,825
Friendly societies (not collecting and branches)...	26,826	22,313	3,861,519	107,052,815
Collecting societies.....	39	35	3,318,942	11,449,290
Other societies under the friendly society acts...	1,022	494	235,510	2,257,775
Industrial and provident societies.....	1,382	1,155	892,110	65,015,230
Trade unions (including some unregistered).....	405	259	871,232	6,444,425
Loan societies.....	311	309	34,816	1,339,355
Railway savings banks.....	7	7	15,188	5,220,470
Total.....	32,744	25,905	9,834,705	451,691,185

In Scotland there were 43 building societies with funds amounting to \$4,710,000; in Ireland 65, with nearly \$3,500,000 of funds.

WALLACE BRUCE,
Consul.

LEITH, February 10, 1893.

AUSTRALIA.

NEW SOUTH WALES.

The building and loan companies in this colony have proved, as is nearly always the case when they are conducted honestly and upon sound business principles, great benefits to the community and individual citizens. Many of the largest business blocks in this city are the result of united efforts brought about through the agency of these associations. Streets and entire suburbs have been opened and peopled, and many a mechanic and laboring man has been enabled to acquire what under ordinary circumstances would have been impossible to him—a home for himself and family. But during the so-called flush times a few years ago in this colony the organizing of building and loan companies became almost an epidemic; they sprung up in endless numbers, and the savings of a lifetime were often induced, by extravagant promises of profit, to seek investment in companies that afterwards were found to be the mere tools of bold and dishonest speculators. The plan upon which most of these companies were organized and worked was about as follows: A number of men would come together and form, under a high-sounding name, a company for the purpose of selling shares, receiving deposits, borrowing money, making loans to shareholders upon their shares in the capital stock of the company and to others upon approved real-estate security, acquiring real estate, and erecting buildings to be sold upon the installment plan; they would then open books for subscription to the stock and, after a sufficient amount was subscribed, complete the organization by the election of a board of directors and executive officers. Now, if the business of these companies had in all cases been carefully, judiciously, and honestly conducted, no great losses could have been sustained by the stockholders or depositors; but in many instances the companies engaged in land speculations, booming real estate, endeavoring to create artificial values, and other schemes not altogether of a legitimate character. The consequences were that when the reaction, the "financial scare," came, as it was sure to come sooner or later, the assets of many of the companies proved valueless, and the corporations had to go to the wall, carrying hardship and distress in their train to all who were connected with them. In some cases the management was absolutely dishonest, false and misleading balance sheets were issued and published, dividends were declared on fictitious values, and deposits received after it was known that the companies were insolvent. Several of the directors and managers of this latter class of companies are now serving long terms in the penitentiary.

I transmit herewith the prospectus, etc., of the Equitable Permanent Benefit Building, Land, and Savings Institution, which gives a fair statement of the plan upon which it and all similar companies are conducted.

The following is a list of the building and loan companies that have been incorporated in this colony, together with their nominal capital, paid-up capital, and other information. This list was made up from the records in the office of the registrar-general of this colony and, while not complete in some of its details, may be considered as correct and reliable as far as it goes.

Building and loan companies incorporated in New South Wales.

Names of companies.	Date of incorporation.	Capital.		Date of failure or suspension.	Remarks.
		Nominal.	Paid up.		
Metropolitan Mutual Permanent Building and Investment Association.	Feb. 16, 1880	£1,000,000	£127,500	Sept. 28, 1891	Depositors and creditors have granted an extension of 4 years.
Excelsior Land Investment Building Company and Bank.	Aug. 6, 1880	100,000	80,370	.....do.....	Depositors and creditors have granted an extension of 3 years.
Haymarket Permanent Land and Building Company.	Aug. 30, 1880	100,000	54,027	Feb. 18, 1892	Do.
Anglo-Australian Investment, Finance, and Land Company (limited).	Oct. 2, 1880	557,962	115,924	Jan. —, 1892	Depositors and creditors have granted an extension of 5 years.
New South Wales Property and Investment Company.	Jan. 25, 1881	200,000	27,598	1888	In liquidation.
Civil Service Banking and Provident Society.	Feb. 18, 1881	5,000	3,745	Dec. 13, 1881	Originally a friendly society; now placed under the "companies act."
North Shore and Middle Harbor Land Company.	Nov. 3, 1882	300,000	19,575		
Federal Building Society and Savings Bank.	Jan. —, 1882	500,000	200,000	Oct. 26, 1892	In liquidation.
Sydney and Suburban Mutual Building Land Investment Company.	Feb. 27, 1882	250,000	100,669	July 15, 1892	Depositors and creditors have granted an extension of time.
New South Wales Mont de Piété and Investment Company.	Apr. 28, 1882	50,000	50,000	.....	Pays a regular 10 per cent dividend.
Mutual Provident Land, Investment, and Building Society.	June 10, 1882	50,000	31,311	Oct. 24, 1891	In liquidation.
Eastern Suburbs Mutual Building and Investment Company.	Nov. 1, 1882	25,000	800	1890	Do.
Sydney and Provincial Land and Building Company.	Dec. 2, 1882	100,000	37,478	Dec. 31, 1891	Do.
Australian Mutual Investment and Building Company.	Jan. 30, 1883	100,000	57,274	Sept. 9, 1891	Depositors and creditors have granted an extension of 5 years.
Granville Mutual Permanent Building and Investment Company.	Sept. 28, 1883	100,000	7,035		
Mittagong Land Company.	Dec. 28, 1883	100,000	12,500		
Cumberland Building, Land, and Investment Company.	Apr. 24, 1884	100,000	21,198		
Enterprise Land and Building Company.	June 13, 1884	60,000	9,600		
Peakhurst Land and Building Company.	Aug. 5, 1884	12,000	6,000	Sept. 23, 1891	In liquidation.
Mercantile Land, Building, and Investment Company.	Sept. 11, 1884	50,000	31,502	Nov. 11, 1891	
United Land, Building, and Investment Company.	Sept. 23, 1884	100,000	13,713	Nov. 21, 1891	
Sydney Building Company.	Oct. 13, 1884	24,000	2,400		
Blayney Permanent Building and Investment Association.	Oct. 30, 1884	25,000	.....	
Land Company of Australia.	Apr. 9, 1885	200,000	57,273	Feb. 18, 1892	Depositors and creditors have granted an extension of 3 years.
City and County Investment, Land, and Building Company.	Apr. 10, 1885	100,000	7,750	Sept. 24, 1891	In liquidation.
Reform Land and Investment Company.	Oct. 28, 1885	200,000	15,860	Nov. 20, 1891	Do.
Australian General Investment Company.	Nov. 7, 1885	50,000	2,416		
Intercolonial Investment, Land, and Building Company.	.....do.....	500,000	27,075		

Building and loan companies incorporated in New South Wales—Continued.

Names of companies.	Date of incorporation.	Capital.		Date of failure or suspension.	Remarks.
		Nominal.	Paid up.		
Universal Land and Building Company.....	Nov. 21, 1885	£500,000	£600		
Mercantile Finance and Deposit Company.....	Jan. 24, 1886	100,000	11,143	Oct. 21, 1892	
Fairfield Land and Building Company.....	Jan. 30, 1886	10,000	4,870		
New South Wales Land and Building Company.....	Mar. 6, 1886	500,000	2,546		In liquidation.
Australian Property and Investment Company.....	Mar. 8, 1886	100,000	1,889	May 17, 1892	
North Sydney Land and Building Company.....	Mar. 29, 1886	50,000	10,683		Do.
Imperial Land, Building, and Deposit Company.....	Apr. 27, 1886	50,000	13,973		
Gosford Land and Building Company.....	Apr. 28, 1886	5,000	4,125		
Manly Building and Investment Association.....	May 26, 1886	50,000	5,573		
Land, Building, and Investment Association.....	June 17, 1886	200,000	57,273		
Newcastle and Country Mutual Building, Land, and Investment Company.....	July 22, 1886	50,000	5,203		Do.
Joint-Stock Land, Building, and Investment Association.....	Aug. 4, 1886	100,000	933		
Burwood Land, Building, and Investment Association.....	Aug. 17, 1886	100,000	11,814		Do.
Land Mortgage, Loan, and Discount Company.....	.....do.....	30,000	30,000	Jan. 19, 1892	
Union Land, Building, and Investment Company.....	Sept. 13, 1886	50,000	10,560		
Fairy Bower Land Company.....	Oct. 29, 1886	15,000	9,907		
Newcastle Suburban Mutual Building, Land, and Investment Company.....	Nov. 26, 1886	50,000	5,203		Do.
Australian Trust Management Association Investment Company.....	Apr. 29, 1886	100,000	15,788	Dec. 16, 1890	
Premier Property Investment Company.....	Feb. 12, 1886	250,000	12,500		Depositors and creditors have granted an extension of 3 years.
Centennial Investment, Land, and Building Company.....	Mar. 25, 1887	100,000	16,580	May 4, 1892	
Sydney and Perth Land, Building, and Investment Company.....	June 3, 1887	30,000	9,525		
Bathurst Investment, Land, and Building Company.....	June 22, 1887	37,500	6,645		
National Building, Land, and Investment Company.....	July 1, 1887	200,000	25,461	Feb. 10, 1892	Depositors and creditors have granted an extension of 5 years.
Sydney Freehold Land, Building, and Investment Company.....	Sept. 13, 1887	50,000	18,790		
Southern Building, Mortgage, and Investment Company.....	Nov. 4, 1887	50,000	5,198		
Balmori Building Society.....	Dec. 3, 1887	.....	3,640	Nov. 17, 1892	In liquidation.
Assets Realization Company.....	Dec. 7, 1887	200,000	25,000		
Australian Mercantile Loan and Guarantee Company.....	Mar. 20, 1888	500,000	77,285	Sept. 16, 1891	Two directors absconded; manager and director sentenced to terms of imprisonment.
Mortgage Guarantee and Mercantile Finance Company.....	Mar. 22, 1888	1,000,000	50,000		

North Sydney Investment and Tramway Company.....	May 5, 1888	1,000,000	363,334	Jan. 15, 1892	
Sydney Real Estate Bank.....	June 6, 1888	1,000,000	185,000		
Sydney Agency and Finance Company.....	July 11, 1888	1,000,000	90,145		
Circular Quay Land Company.....	do.....	250,000	63,840		
Colonial Finance, Mortgage, Investment, and Guarantee Com- pany.	July 16, 1888	1,500,000	75,000		
Economic Property and Investment Company.....	Aug. 4, 1888	50,000	4,590	Sept. 16, 1891	
Bathurst Loan and Investment Company.....	Oct. 23, 1888	10,000	1,886		
Darling Harbor, Land, and Wharf Investment Society.....	Oct. 24, 1888	250,000	39,419		
Kensington Freehold Corporation (limited).....	Nov. 8, 1888	500,000	375,000	Jan. 14, 1891	
Blacktown Land Company.....	Oct. 16, 1889	10,000	8,302	Sept. 28, 1891	
British and New South Wales Investment and Finance Company..	June 5, 1889	250,000	254	Dec. 2, 1891	In liquidation.
Federal Reversionary Building Society.....	Feb. 2, 1889	200,000	13,275	May 20, 1891	Do.
Australian Land and Investment Company.....	May 31, 1889	50,000	10,394		
Australian Coöperative Trading and Banking Company.....	Jan. 20, 1890	10,000	1,043		
Franklin Harbor Proprietary Land Company.....	May 21, 1890	64,000	64,000	Nov. 18, 1891	In liquidation; directors sentenced to terms of imprisonment.
Northumberland Banking Company.....	July 1, 1890	50,000	2,258		
Guardian Freehold Building Company.....	July 14, 1890	100,000	7,036	Oct. 4, 1891	In liquidation.
Commercial Agency and Trading Company.....	July 25, 1890	500,000	5,167	Nov. 23, 1891	In liquidation; director (managing) and manager sentenced to terms of imprisonment.
Australian Banking Company.....	Sept. 1, 1890	250,000	102,738		
Universal Land and Deposit Company.....	June 30, 1891	100,000	6,875		
Sydney Permanent Freehold Land and Building Society.....	Nov. 26, 1891	200,000	102,770	Sept. 15, 1892	Depositors and creditors have granted an extension of 3 years.
Equitable Permanent Benefit Building, Land, and Savings In- stitution.	Apr. 1, 1884	(*)	70,475		
St. Joseph's Building Society.....	1872	.....	110,237		

* Shares £50 each.

It will be seen that during the last two years a large number of these institutions have failed and suspended. What the aggregate losses to the shareholders and depositors have been is impossible to ascertain. The Australasian Insurance and Banking Record of May 18, 1892, says:

The indebtedness to the public of the twenty-one companies (building and loan) that suspended has been estimated at nearly £5,000,000; of these ten, representing £3,660,229, have arranged to resume operations under the companies arrangement act [copy of which act is herewith inclosed]; nine, representing about £756,000, are in liquidation; and the remaining two are negotiating terms with their depositors.

Since the above date (May 18, 1892) many additional failures and suspensions have occurred, involving the public in very heavy losses.

None of the financial institutions in this colony, such as banks, life and fire insurance companies, building and loan associations, etc., have heretofore been under the supervision of the government as to their stability and financial standing. The matter was brought to the attention of the lower house of parliament on the 15th instant, and the following debate took place:

Mr. Kelly moved "that, in view of the recent disgraceful disclosures concerning bogus banks and other financial institutions, it is desirable to at once have a strict investigation made as to the stability of the various life and fire insurance societies, so that every protection may be afforded to the general public against imposition or fraud." He said that bogus banks and fire and life insurance companies could be run with success by almost any person. Their books could be manipulated by any dishonest person, and, although through their boldness they were detected in the end, the institutions were incentives to roguery. He regarded the bogus banks as nothing better than bloodsuckers, and the law with regard to institutions receiving deposits was very lax. He would suggest as a remedy a bill authorizing the government to appoint a person to inspect their accounts and compel them to issue quarterly sworn returns which would show the amount of realizable assets and the cash in hand, and if they were insufficient to meet the liabilities the government should compel them to make up the deficiency thirty days afterwards, and if they failed they should be ordered into liquidation. A similar law existed in the United States, and had proved effective in checking bogus institutions similar to those which existed in New South Wales. The banks in Sydney at the present moment, although they had some valuable assets, had not sufficient dissolvable capital or cash in hand in proportion to their liabilities—probably not $16\frac{1}{2}$ per cent, or 4s. 6d. in £1. In fact, he might say that there was nothing more or less than a certain amount of gambling in connection with certain of these institutions. The motion opened up a wide field for discussion, but he would content himself by moving the resolution and leaving it in the hands of the house.

Mr. Carruthers said the resolution was one that deserved well of the house, though it was poorly framed. It said that, in view of the recent disgraceful disclosures concerning bogus banks, it was desirable to at once have an investigation made, not with regard to bogus banks, but with regard to the stability of the various life and fire insurance societies. They had seen enough all round to satisfy them that almost the whole of the building and financial societies, excluding the first-class chartered banks of the colony, were simply rotten to the core. The shareholders, however, had entered into these concerns as pure business speculations; and with regard to the depositors, he knew by experience in his profession that for the last ten years there had been almost an aversion on the part of investors to lend their money on legitimate securities, such as mortgages, as they preferred to pay their money over the counters of these institutions. He had therefore not a large amount of sympathy with those persons who, out of sheer greed of higher interest, had chosen to invest in bogus banks in place of

good securities. Still, he had sympathy with those persons who had lost their money through want of business knowledge. When they came to life assurance, however, there could be no doubt whatever. People invested in these institutions for the motive of prudence, and the society which would rob such persons was deserving of the utmost execration. He hoped every member would support the proposal to have an investigation into these life-assurance companies. The only protection to the public in regard to life-insurance companies was that some investigation should be made from time to time, not by actuaries or auditors appointed by shareholders, but by auditors and actuaries in the public service and responsible solely to the government of the country. [Hear, hear.] He held that actuaries and accountants should be compelled to pass proper examinations, and give some guaranty to the treasury for the proper performance of their duty. In the public interest the profession of public accountant should be safeguarded, so that it should not be in the power of anyone to perform the duties of the office unless he was competent to do so.

Mr. Willis said he did not see why the bill prepared by the late government could not be taken up. It was a crying shame that that matter was not dealt with. Honorable members of that house, instead of being allowed to become directors of those institutions, should be made liable to a penalty if they had their names flaunted as directors at so much a sitting. The inducement to become directors was, "Lend us your name and I will give you 2 guineas a sitting." It was a crying shame that that sort of thing should be allowed to be carried on. If it continued to be carried on, they would soon have a quorum of members in parliament. The sooner the government dealt with that matter the better it would be. He described the formation of a certain company which, he said, was floated without even a penny-piece. One, if not more, of those connected with that company held seats in this house to-day; the others were in jail. [Laughter.]

Mr. Young said he would be glad to see some system adopted which would prevent a recurrence of the unfortunate things which had happened of late years.

Mr. Crick said that the allusion made by Mr. Willis to the fact that there were persons outside who were prepared to beg, borrow, or steal the names of members of parliament so as to advertise bogus companies showed how necessary it was that some check should be placed upon honorable members in this respect. Indeed, he would go to the extent of approving of the imposition of a penalty upon those honorable members who, it might be, yielding to continued persuasion, allowed their names to be used by persons engaged in the promotion or carrying on of unsound financial institutions. The unthinking section of the public took it for granted that an institution with which was associated the name of a member of parliament was necessarily a sound one. This was a mistake which had cost investors dear, and it was a mistake which showed how necessary it was that honorable members should be exceedingly careful in allowing use to be made of their names. He regretted that the promise made by Mr. McMillan, when in office, to introduce a bill dealing with the subject had not been kept. He trusted that Mr. Kelly would obtain from the present government a distinct promise that the whole matter of financial institutions should be dealt with without delay. Unless this were done, he feared that a deathblow would be given to the thrifty habits of the people, and this would be little short of a public disaster. The government must insist upon all necessary guaranties being given by those who sought to obtain money on deposit from the people.

Mr. Cann said the recommendations made to the government in the resolution before the house were by no means sufficient to meet the evil which admittedly had existence. Unless the government introduced some measure to block the promoting interest, the evil would not be checked. In the mining world, for instance, the public had been fleeced of millions by practically bogus mining prospectuses. The government must not allow these people to take the money out of the pockets of the people. Whatever legislation was introduced, it was necessary to checkmate this kind of thing. If they wished to effect a remedy, the government must say, if a company was no good, that it was no good. People took up a piece of land under which there was no mineral at all, and the mines department ought to checkmate this kind of thing.

Mr. McCourt said he was the first member of the house who brought this matter forward. They should certainly have an inspection of these banks, but the danger was that they might go too far. This motion did not embrace the institutions that received money on deposit, and the honorable member would have to alter his motion to bring those institutions within it. The directors of those institutions should be made directly liable for the positions they held.

Sir George Dibbs said there was no doubt that such a measure as the honorable member proposed would be of public service; and he would assure the honorable member that such a measure, which was required for the protection of the public, would be introduced by the government. Such a measure, if not at the present moment fully completed, was partially completed. The resolution did not go half far enough, in his opinion, and the honorable member having provoked a discussion, and having the assurance that a bill of this kind would be introduced before the close of the session, might withdraw his motion. He might point out that a very useful measure was passed by the Parkes government—the census and industrial returns act—which was passed towards the close of 1890, under which authority the census was conducted, and some valuable information was obtained from the banks, building societies, and insurance offices. He was informed by Mr. Coghlan that all the banks except one—and that was a bank of high standing—had complied with the act, and he had instructed Mr. Coghlan to proceed against that bank. The information, when completed, would be very valuable. With the assurance that the matter was in the hands of the government, and that the government was fully alive to the question, he thought the motion might be withdrawn. When in England he received numerous letters from people who had lost their all in these institutions. The government would pass a measure to give a strict investigation before any institution started. The government was getting on as fast as it could with legislation. They had one or two other measures which they desired to pass, and notice had been given that night to deal with the federation question. He had a bill of greater importance than even the bill under discussion—the local government bill—which he intended to deal with, and he would introduce it on the following Thursday. After dealing with the local government bill he would deal with the measure in reference to the financial institutions.

Mr. O'Sullivan said the house should place on record its disapprobation of the disgraceful disclosures. The resolution did not go far enough, and he proposed to add to the motion the words "building societies, land banks, mining companies, and all companies registered under the companies act." He trusted the house would now insist on something tangible being done. Anyone starting a company should submit his prospectus to a government authority.

Mr. Traill said he saw the logic of the amendment, and it was pleasing to find the house in such a mood. It was something like locking the stable door after the steed had been stolen, because, although a swindling institution was exposed in the house, a number of members had browbeaten him for calling attention to it. It was desirable to have a measure to protect the public, and as an argument he could mention that the committee appointed to inquire into the Australian Banking Company's bill had in its numbers no less than five members connected with the institution. It was true that the government, when they found that out, would not let the committee proceed with its work; but after that the second committee reported favorably on the concern despite his charges. It did seem incredible that, in spite of what he had said in the house, he was not called on to verify his statements; and if he had he could have shown that Malcolm, who was connected with it, was a commercial swindler. It was not generally known that that bank was actually given a charter by an executive council, and for a short time advertised itself as a chartered bank, and if the records of the executive council were searched that would be ascertained. He saw the statement in the papers, and was certain of his facts, because, knowing what the institution was, it had strongly impressed him at the time. That showed the necessity for the government watching the interests of the public. He remembered the efforts that were made to start a labor bank. A number of persons who had been dismissed from their employment in New Zealand came to the colony and went to the trades and labor council to find out what members of the house

had the confidence of the party. A number of these were approached, including himself; but when he looked into the proposal, he declined to have anything to do with it, especially as one of the persons getting up the bank told him that it might be easy to take over accounts that other banks would be glad to get rid of. He thought it was going a little too far to ask the government to examine prospectuses, as many of them were of the most speculative character. It was, however, time that government auditors were appointed to go through the books of these companies, investigate their balance sheets, and see that their circumstances were as represented. The laxity of the law at present made crime and exposed men who were originally well-meaning to great temptation.

Mr. A'Beckett said that was a matter of very great importance, for the ruin and misery caused by that class of swindling was greater than all other classes of swindling put together. He hoped that one of the first measures introduced would be a measure to prevent that sort of thing. He hoped the government would keep their promise and bring in such an act as early as possible. The only fault he saw in the resolution was that it was not comprehensive enough.

Mr. Murphy said that, while he agreed with everything said about the original motion, to his mind the amendment moved by the honorable member for Queanbeyan was bordering on an absurdity. While it was the duty of the government to protect the depositors in the banks and the policy-holders in the assurance companies, it was going outside the duty of any government to investigate and make public the private business of all public companies. He could not support the amendment.

Mr. Cook said there were no two opinions about the desirableness of the object the mover of the motion had in view, and, so far as it tried to defend the interests of the unoffending and innocent public, he cordially agreed with it. Nothing more scandalous to a civilized country could have happened than the disclosures about some of these bogus banks. But he questioned very much whether the means proposed would attain the object desired. He thought the amendment went a little too far. If the government was going to interfere with business in the way proposed, would it not be better for the government to run a bank of their own, and to start compulsory government insurance? What was wanted was a short and simple measure to regulate the matter generally and forbidding the offering of high interest for deposits.

Mr. Copeland said the amendment was simply carrying the question to an absurd extent. It would be ridiculous to ask the government to take the people under its wing and certify which were legitimate mining ventures and which were not. It was impossible to see through a wall of rock, and therefore mining ventures were necessarily speculative. Government interference in the way proposed would have deterred some of the best mines being opened up. It would be simply absurd for the government to attempt to conduct mines. If they did attempt to do that, only two or three years would elapse before the government would be bankrupt. No government could undertake to carry on business of such a speculative character as mining.

Mr. Dowel said that building societies had rendered invaluable service to the community. Attention was called to the state of the house, and a quorum was formed.

Mr. Dowel said he hoped the government would take good care that all institutions were compelled to place a certain proportion of their subscribed capital and a certain proportion of their deposits in government securities.

Attention was again called to the state of the house, and a quorum was formed.

Mr. Dowel said he hoped the government would take care not only of the small, but of the large institutions as well. The government should be careful in dealing with the large institutions, and not make fish of one and fowl of another. The question involved in the resolution before the house was one of very great magnitude, which would have to be dealt with very cautiously. He would have very great pleasure in supporting the resolution, but he could not see his way clear to support the amendment. He was satisfied that as a result

of the debate that evening directors of financial institutions would in future be exceedingly careful in certifying to the correctness of statements of which they had no real knowledge.

Mr. Johnston said he thought Mr. Kelly was to be commended for bringing forward his motion. The whole question was one of very great importance, and one which could not receive too much attention and consideration.

Mr. Kelly replied. He said that while he could not accept the whole of Mr. O'Sullivan's amendment, which was of rather too drastic a character, he was quite prepared to admit the government should step in and see that the general public was protected against those engaged in the promotion of bogus institutions.

The house then divided on the amendment, with the following result: Ayes, 26; noes, 28. The original motion was agreed to on the voices.

While the values of real estate and other interests have, in consequence of these failures, the breaking of the land boom, and from other causes, been greatly lowered and business generally depressed, it is believed that improvements are now taking place, that public confidence is returning, and that soon a renewed activity will manifest itself, and the building and loan companies that were able to weather the storm will be better prepared than ever to successfully carry out the objects of their organization.

WM. KAPUS,
Consul.

SYDNEY, *November 24, 1892.*

[Inclosure No. 1.]

THE EQUITABLE PERMANENT BENEFIT BUILDING, LAND, AND SAVINGS INSTITUTION.

This society, having as its object the improvement in the condition and the elevation and independence of the various classes of labor represented by the working community, was launched in April, 1874, and the extent to which it has succeeded entitles it to rank as the leading permanent building society of the city. The system in operation is at once simple and easily understood, and its past, as well as future, success has been, and will be, secured by the constant coöperation of its members. In the formation of this institution the originators were forcibly impressed with the fact that loans upon fixed mortgage, necessitating a periodical payment of interest and the repayment of the whole of the principal in one sum at the end of a term of years, were altogether unsuited to the circumstances and requirements of the working community, and thereupon resolved to establish a permanent society upon a clear, simple, yet strictly reliable basis, in which borrowers by a regular weekly, or monthly payment, amounting to little, if any, more than a fair rental, would in a short term of years, and without any payment of a lump sum, acquire the absolute ownership to their property. Many of the difficulties which experience has shown existed in other societies have been obviated in the Equitable, and the rules are as complete, and withal as liberal (consistent with a due regard to safety), as it is possible to have them. The surplus profits derived from the operations of the society are periodically divided among all classes of shareholders, so that borrowers, together with investing shareholders, participate in the division. The rates of repayment have been determined after mature deliberation, and it was thought that to many a hard-working, industrious man who may be anxious to secure a home of his own it were better to make the payments as low as possible, rather than to shorten the duration of the loan, as a slight extension of the time when he would accomplish that which he desired would be altogether insignificant as against his possible inability to

have kept his payments up regularly had the amounts been greater. To those who are in positions to increase the weekly installments, and so pay off the loan in a shorter period, every facility for so doing has been accorded, no restriction whatever existing against any sum being paid over and above the minimum repayment fixed by rule.

This institution is determined to be guided by those principles only which are based on thorough mutuality, and which can not fail to place it in a foremost position as one of those institutions by which the workman may reach to thorough independence and ease, and on this account relies confidently on receiving a general support from the community; its great aim and object being not that the utmost farthing shall be screwed as profit out of what is being done, but rather the permanent establishment of an equitable principle, by which, in the present and the future, the largest number will be benefited.

SAVINGS-BANK BRANCH.

Sums of money from £1 upwards will be received at any time and may be withdrawn without notice on demand; all moneys deposited in this way bear interest at the rate of 5 per cent per annum, calculated upon the minimum monthly balances.

This branch places at the disposal of individuals one of the best methods of establishing a fund for the ultimate object of acquiring their own freehold.

FIXED DEPOSITS.

Sums of money, unlimited in amount, are received upon deposit for fixed periods of time and bear interest at the highest ruling rates, regulated by the period for which the money may be lodged.

BORROWING SHARES.

Entrance fee, 2s. 6d. each; value of share, £50; weekly payment, 2s. 8d. This is the minimum payment, but a borrowing member may, at his option, increase his payments at any time, and thus terminate the duration of his loan when he pleases.

Many persons entertain an idea that in borrowing from a building society they have to pay interest on the full amount of the loan during the whole term of their connection with the society, notwithstanding that they are gradually reducing the amount due. This is an error. The plan adopted by this society is to charge interest only on whatever may be found to be due at the beginning of each year. In this way an inducement is offered to borrowers to increase the amount of their repayments, when practicable, and so shorten the duration of their loan.

The following example will illustrate and convey to the minds of those who have, up to the present, withheld themselves from taking advantage of a building society the benefit that may be derived by at once becoming a borrowing member of the Equitable.

A man purchases a house for £250, having previously paid a rent for it of 10s. per week, or £26 per annum. He can afford to pay, say, £50, and borrows the remainder—£200—from the society, to be repaid in eleven years, at 10s. 8d. weekly, or £27 14s. 8d. per annum. Thus:

	£	s.	d.
11 years at £27 14s. 8d.....	305	1	4
Amount paid at outset.....	50	0	0
Total.....	355	1	4
Rental he would otherwise have paid at £26 per annum for 11 years.....	286	0	0
Actual cost of the house.....	69	1	4

Again: A man owns a block of land which cost him £75, but he has not the means to build a house on it. He is induced to borrow £300 from the society to build a house similar to that which he has been occupying, and for which he has paid a rental of 15s. weekly.

This loan he repays in eleven years at the rate of 16s. weekly, or £41 12s. per annum, as shown below :

11 years at £41 12s.....	£	s.
Cost of land.....	457	12
	75	0
Total.....	532	12
Rental he would have paid if he had not been induced to build, £39 per annum for 11 years.....	429	0
Actual cost of the house and land.....	103	12

This is only £28 12s. in addition to what the vacant land cost him. It will thus be seen that a clear profit has been made, in the first case, of £180 18s. 8d., and, in the second, of £271 8s., which the members could not have realized had they remained tenants. As an investment, then, this means of employing money will bear favorable comparison with any other elsewhere offered to the public. For example, it is generally understood that a sum of money deposited with a bank or other monetary institution and allowed to accumulate with compound interest added would take twelve years to double itself; so that if the person mentioned in the foregoing example had thus deposited his £75 it would in twelve years have amounted to £150, while, on the other hand, by applying it as shown at the end of eleven years it is represented by a property worth £275, even supposing that it has not enhanced in value 1 farthing, which is very unlikely, presuming that the spot selected is in an improving locality. It is a matter worthy of consideration that for a few years a small sum only, in addition to an ordinary rental, is required to purchase a house, and that the paying of rent to a landlord for fifty years does not confer any title on the tenant, whereas in the other case the member becomes possessed of the absolute freehold.

Weekly payments necessary for clearing off a loan from two to eleven years.

Number of shares.	Amount.	Two years.	Four years.	Six years.	Eight years.	Ten years.	Eleven years.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1.....	£ 50	0 10 10	0 5 10	0 4 2	0 3 4	0 2 10	0 2 8
2.....	100	1 1 8	0 11 8	0 8 4	0 6 8	0 5 8	0 5 4
3.....	150	1 12 6	0 17 6	0 12 6	0 10 0	0 8 6	0 8 0
4.....	200	2 3 4	1 3 4	0 16 8	0 13 4	0 11 4	0 10 8
5.....	250	2 14 2	1 9 2	1 0 10	0 16 8	0 14 2	0 13 4
6.....	300	3 5 0	1 15 0	1 5 0	1 0 0	0 17 0	0 16 0
7.....	350	3 15 10	2 0 10	1 9 2	1 3 4	0 19 10	0 18 8
8.....	400	4 6 8	2 6 8	1 13 4	1 6 8	1 2 8	1 1 4
9.....	450	4 17 6	2 12 6	1 17 6	1 10 0	1 5 6	1 4 0
10.....	500	5 8 4	2 18 4	2 1 8	1 13 4	1 8 4	1 6 8
11.....	550	5 19 2	3 4 2	2 5 10	1 16 8	1 11 2	1 9 4
12.....	600	6 10 0	3 10 0	2 10 0	2 0 0	1 14 0	1 12 0
13.....	650	7 0 10	3 15 10	2 14 2	2 3 4	1 16 10	1 14 8
14.....	700	7 11 8	4 1 8	2 18 4	2 6 8	1 19 8	1 17 4
15.....	750	8 2 6	4 7 6	3 2 6	2 10 0	2 2 6	2 0 0
16.....	800	8 13 4	4 13 4	3 6 8	2 13 4	2 5 4	2 2 8
17.....	850	9 4 2	4 19 2	3 10 10	2 16 8	2 8 2	2 5 4
18.....	900	9 15 0	5 5 0	3 15 0	3 0 0	2 11 0	2 8 0
19.....	950	10 5 10	5 10 10	3 19 2	3 3 4	2 13 10	2 10 8
20.....	1,000	10 16 8	5 16 8	4 3 4	3 6 8	2 16 8	2 13 4
30.....	1,500	16 5 0	8 15 0	6 5 0	5 0 0	4 5 0	4 0 0

It does not follow, because the above table sets out the amounts payable per week, that the payments must necessarily be made weekly; they can be made every two, three, or four weeks, at the borrowers' convenience. A member in executing a mortgage contracts to pay

the rate necessary to extinguish the loan in about eleven years; but he can increase his payments at any time during the existence of the loan, and thus discharge his liability at any of the periods as shown in the above table.

TO BORROWERS.

In all cases of application for advances, it is necessary that the valuation fee be first paid. An application form is then supplied, on which is recorded all necessary particulars relating to the property offered as security. If the valuator's report meets with the approval of the board and the title is sound, a mortgage is at once prepared, and when executed the money is paid. Persons who may possess land and wish to borrow for the purpose of erecting a house can obtain every facility. In such cases it is necessary that a plan and specification of the intended building should accompany the application, which, if approved of, is accepted and the money advanced from time to time as the building progresses.

The valuation fees are as follows: For valuation of property proposed for mortgage, 21s.; if beyond 3 miles from the society's office, 2s. per mile extra; and in cases where buildings are in course of erection 10s. for every subsequent visit.

The fees payable to the solicitor for mortgages are progressive, according to the sum borrowed.

There are, unfortunately, too many who, from some unexplainable cause, entertain a kind of prejudice against building societies, and it is such that this information is intended to reach, so that by careful attention and due consideration of the system in operation they may have removed from their minds any erroneous impressions as to the aim and object of a building society.

As much misconception exists as to the actual interest a member has to pay, the following table will serve to dissipate any erroneous opinions. Particular attention is directed to the fact that each year the amount of interest paid gradually lessens, while the portion of principal repaid increases each year in the same proportion as the interest decreases.

To illustrate the case a loan of £100 is treated:

Year.	Principal sum repaid.	Interest paid.
	£ s. d.	£ s. d.
First.....	6 7 4	7 10 0
Second.....	6 16 11	7 0 5
Third.....	7 7 2	6 10 2
Fourth.....	7 18 2	5 19 2
Fifth.....	8 10 1	5 7 3
Sixth.....	9 2 10	4 14 6
Seventh.....	9 16 6	4 0 10
Eighth.....	10 11 3	3 6 1
Ninth.....	11 7 1	2 10 3
Tenth.....	12 4 2	1 13 2
Easing 9 months.....	9 18 6	0 11 2
Total.....	100 0 0	49 3 0

A sum of £100 borrowed on a fixed mortgage for ten and three-fourths years at 6 per cent would require £64 10s. paid as interest, whereas by the above table the full interest paid for a similar term is £49 3s., thus clearly demonstrating the advantage of building societies.

ADVANCES TO ANY AMOUNT ARE ALWAYS READY.

Applications for loans are received daily during office hours, and advances are made without delay on the security of freehold or leasehold property.

OBJECTS OF THE INSTITUTION.

- (1) To establish a fund by which members may build or purchase property or improve the same on the easiest and most advantageous terms and to convert what they now pay as rent into the purchase money.
- (2) To furnish the means for redeeming private mortgages and accepting in lieu thereof the privilege of paying off both principal and interest by small periodical payments.
- (3) To offer to the capitalist one of the best and safest means for the employment of his money on interest at the best current rates and free from all trouble attendant where moneys are lent privately on mortgage.
- (4) To assist in placing men, their wives and families, in comfortable homes, where by payment of an ordinary rental for a few years they can secure the freehold.
- (5) To provide a channel for the reception of small sums of money and make them productive of interest.

SPECIAL ADVANTAGES.

No application fees charged.

No bidding or balloting for advances.

The entire loan may be extinguished at any time, and the interest is only charged each year; therefore, if the loan has only lasted during one financial year, the member is only charged one year's interest.

In cases of sickness or misfortune, payments may be suspended without fine for any period not exceeding twelve months.

No premium of any kind is charged on loans.

A member has the privilege, in case of inability to continue to pay the amount required, to apply for an extension of his loan and a consequent reduction in his payments.

Borrowers participate in every division of profits, the amount to which a borrower may become entitled passing to his credit in reduction of his loan.

CHARACTERISTICS OF THE INSTITUTION.

Promptitude and equitable dealing.

Advances are made by this society with a promptness and system of inviolable secrecy that is unsurpassed.

The most equitable—not only in name, but in principle—building society in the colony.

SECURITY OF THOSE INVESTING IN THE INSTITUTION.

The entire funds being lent out in no other way than on freehold and leasehold property, and then only to the extent of from two-thirds to three-fourths of the ascertained value, while the amount thus lent is being at once paid back by regular installments, thus reducing the society's risk, the property remaining the same and oftentimes increasing in value, furnishes the very best and most reliable condition of security which the most cautious financier could desire.

[Inclosure No. a.]

AN ACT TO FACILITATE COMPROMISES AND ARRANGEMENTS BETWEEN JOINT-STOCK COMPANIES, ASSOCIATIONS, OR SOCIETIES LIABLE TO BE WOUND UP UNDER THE "COMPANIES ACT" AND THEIR CREDITORS, AND TO AMEND THE "COMPANIES ACT" AND THE "FRIENDLY SOCIETIES ACT OF 1873." (ASSENTED TO JANUARY 12, 1892.)

(1) This act may be cited as the "joint-stock companies arrangement act, 1891."

(2) Where any compromise or arrangement shall be proposed between a company which is, at the time of the passing of this act or afterwards, in the course of being wound up, either voluntarily or by or under the supervision of the court, under the "companies act," and the

creditors of such company, or any class of such creditors, it shall be lawful for the court, in addition to any other of its powers, on the application in a summary way of any creditor or the liquidator, to order that a meeting of such creditors or class of creditors shall be summoned in such manner as the court shall direct; and if a majority in number representing three-fourths in value of such creditors or class of creditors present, either in person or by proxy or attorney, at such meeting shall agree to any arrangement or compromise, such arrangement or compromise shall, if sanctioned by an order of the court, be binding on all such creditors or class of creditors, as the case may be, and also on the liquidator and contributories of the said company.

(3) Where no order has been made or resolution passed for the winding up of a company, and any compromise or arrangement shall be proposed between such company and the creditors of such company or any class of such creditors, it shall be lawful for the court, in addition to any other of its powers, on the application, in a summary way, of the company or of any creditor of the company, to restrain further proceedings in any action, suit, petition, or proceeding against the company upon such terms as the court shall think fit; and also to order that a meeting of such creditors, or class of creditors, shall be summoned in such manner and at such time as the court shall direct; and if a majority in number representing three-fourths in value of such creditors or class of creditors present, either in person or by proxy or attorney, at such meeting shall agree to any arrangement or compromise, such arrangement or compromise shall, if sanctioned by an order of the court, be binding upon the company and its shareholders, and upon all such creditors, or class of creditors, as the case may be: Provided, that no application may be made to the court under this section, nor any order made thereunder, subsequently to the 1st day of January, 1896.

(4) The court, on the application of the company or of any creditor or person interested in the company, before sanctioning any arrangement or compromise under this act, may order such meetings to be summoned and inquiries to be made as it shall think fit, and may alter or vary such arrangement or compromise, and impose such conditions in the carrying out thereof as it shall think just.

(5) In the winding up of any company under the "companies act," either voluntarily or by or under the supervision of the court, the same rules shall prevail and be observed as to the respective rights of secured and unsecured creditors, and as regards the declaration and distribution of any dividend, and in all respects as regards the proof and allowance of debts or claims against the assets of the company, as may be in force for the time being under the laws of bankruptcy with respect to the estates of persons adjudged bankrupt.

(6) The word "company" in this act shall mean any society registered under the "friendly societies act of 1873," or any company, association, or society entitled or liable to be wound up under the "companies act;" and the expression "the court" shall mean the supreme court in its equity jurisdiction.

(7) This act shall be read and construed as part of the "companies act," and of the "friendly societies act of 1873."

AUSTRALIAN SUSPENSIONS.

I send, in response to Department circular dated September 16, 1892, reports taken from the Australasian Insurance and Banking Record.

GEORGE T. BAGGS,
Commercial Agent.

NEWCASTLE, N. S. W., *February 1, 1893.*

THE MELBOURNE SUSPENSIONS.

For convenience sake we present elsewhere a table showing the position of the twenty-one financial institutions receiving deposits from the public which have suspended payment in Melbourne since July last. The table includes seven building societies, one large mortgage company (the Australian Deposit and Mortgage Bank), nine land "banks," or investment companies (under which heading we include so-called "deposit and mortgage" or "mortgage and deposit" banks), two banks which have transacted a miscellaneous kind of business largely connected with real estate (one being the Standard Bank of Australia, the other the Metropolitan Bank), the only country bank in Victoria (the Ballarat Banking Company), and one of the junior Melbourne banking institutions (the Mercantile Bank of Australia). Two of the institutions enumerated—the Metropolitan Bank and the Mercantile Bank of Australia—had note issues. The associated banks have saved the public from any inconvenience which might have arisen from these issues by retiring. They were able to adopt this policy with perfect safety to themselves, inasmuch as the Victorian banking law makes the note issue a free charge upon the assets of a bank.

Of the twenty-one institutions enumerated in the table, three—the County of Bourke Building Society, the Melbourne Permanent Building Society, and the Colonial Investment and Agency Company—have been successful in making arrangements with their depositors and have resumed business. Eight are also endeavoring to make arrangements, and one of them—the Australian Deposit and Mortgage Bank—has put forth a scheme of reconstruction. Two are in compulsory and eight in voluntary liquidation. The balance-sheet totals represented by each group are as follows:

3 institutions arranged with depositors and resumed business.....	£1,738,653
8 institutions trying to arrange with depositors.....	6,469,213
2 institutions in compulsory liquidation.....	887,884
8 institutions in voluntary liquidation.....	9,582,158
Total	18,677,908

Of the total (£18,677,908) it will be seen that £10,470,042 is in formal liquidation. Whatever may be the issue of the attempts being made to gain the indulgence of depositors, the greater part of the balance (£8,207,866) must be considered as in liquidation of an informal character.

In compiling the table which appears elsewhere, we found that the best course was to take the published balance sheets of the various institutions for our material. In a few instances statements had been made of the position at the date of suspension, but rarely in the form of a balance. The results obtainable from our table will be defective in not completely showing the diminution of deposits caused by the bleeding which necessitated suspension. The bleeding party exhausted both the cash held in hand and such cash advances as could be had at an emergency. As closely as we can estimate, very nearly a million sterling was withdrawn from the various institutions during the bleeding period—say from October to March. The principal headings of our table call for remark. Exclusive of dividends declared and payable, the total amount at credit of the shareholders in twenty-one institutions is £5,372,483, which is made up as follows:

Building-society capital.....	£951,737
Paid-up capital of institutions registered under the companies statute.....	3,280,625
Reserve funds.....	984,597
Undivided profits.....	155,524

We have distinguished the paid-up capital of the building societies from that of other institutions, because it carries no further liability. But in the case of the limited-liability companies the amount of callable capital is £4,688,299. If the amount was realizable, the consequences of the recent disasters to creditors might be greatly mitigated. But to the

financial discredit of the promoters of the land boom, the realization of uncalled capital will in many instances be on a very low basis. The farce has been played of companies "investing" in one another's shares, and so shortsighted or reckless were the promoters that they have in some cases overloaded themselves with liabilities on shares to a frightful extent. We can not, therefore, after a careful scrutiny, estimate the realizable value of the total uncalled capital (£4,663,362) at much over £1,600,000, or rather more than a third, and we are convinced that this estimate is a liberal one. As for the reserve funds of some of the institutions, they are largely fictitious, being made up to a large extent of unrealized profits and interest written up, against which is placed the enormous shrinkage in real estate. There is reason to fear that at least nine-tenths of the reserve and undivided profits shown in our table, and amounting together to £1,140,121, must be considered as lost.

The liabilities to the public, etc., are shown as follows:

Deposits and debentures.....	£10,943,589
Owing to banks.....	200,157
Other indebtedness.....	2,078,797
Total.....	13,222,543

As we have already observed, the drain to which the institutions were subjected reduced the amount due depositors, and the assumption is that nearly ten and one-half millions is still owing under the heading of deposits and debentures. Of this amount about three and one-half millions are due to the United Kingdom, and the balance of nearly seven millions in the colonies. As nearly as can be collected at present, the particulars of the amounts owing to British depositors and debenture-holders are as follows:

Imperial Banking Company.....	£16,846
British Bank of Australia.....	71,697
Anglo-Australian Bank.....	35,981
Melbourne Permanent Building Society.....	13,000
Metropolitan Bank.....	1,300
Standard Bank.....	267,449
Real Estate Mortgage and Deposit Bank.....	519,432
Freehold Investment and Banking Company.....	650,000
English and Australian Mortgage Bank.....	503,000
Mercantile Bank of Australia.....	998,000
Australian Deposit and Mortgage Bank.....	374,927
Total.....	3,451,632

Probably about one-eighth part of the total will be lost, and the remainder will be locked up for a considerable time.

To pay depositors, advances have in several instances been obtained from banks, and the amount of indebtedness to banks at the dates of suspension was, therefore, considerably larger than shown in our table. As regards the item "other indebtedness" (£2,078,797), it is almost entirely composed of obligations to complete purchases of land. Nearly the whole of the amount will doubtless be canceled in the course of liquidation.

We have now finished with the liabilities, and proceed to a statement of the assets. The first in order consists of the loans and advances made by the building societies which have suspended. An aggregate statement of the position of these societies is as follows:

Loans and advances.....	£2,849,838
Other assets.....	91,054
Total.....	2,940,892
Liabilities to the public.....	1,868,081
Apparent surplus.....	1,072,811

The apparent surplus is accounted for by the capital paid up (£951,737) and reserve funds and undivided profits (£121,074). The building societies which have suspended are experiencing several serious difficulties. They have a large quantity of property abandoned to them, and realization is next to impossible at present. On the other hand, there is some return in the shape of rentals. They have also a number of borrowers in arrears, owing to the industrial depression.

As regards the transactions of the institutions other than building societies named in our table, the methods of stating accounts adopted in many cases are not contributory to clearness and definiteness of arrangement. The grouping of items varies greatly, and we are perforce obliged to present the following complicated item, viz, "loans and advances, investments, balances due on sales, and bills receivable, £11,158,084." It is as difficult to appraise the value of this item as to dissect it. A certain proportion—but what, it is hard to tell—can be considered as bad. Then in the case of more purely real-property companies the balances and bills receivable to them are largely in abeyance and will probably never be paid. That portion of the item euphemistically called "investments" is next to bad, as the investments are mostly in other companies which are practically bankrupt. The only other item calling for notice is that of properties (£3,993,302). Of the value of this item it is, of course, impossible to speak with certainty, so much depends upon the circumstances under which realization can be effected.

It is hardly necessary to say that so large a list as twenty-one institutions offers great diversity. Some of the institutions enumerated will doubtless come through the ordeal with safety, and it is very greatly to be regretted that they find themselves in our table at all. The principal assets of these building societies and companies are loans on security which are liquidated at a more or less rapid rate. But the institutions which have really been speculators in real property can hardly expect a favorable realization, although it is to be sincerely hoped that they will ultimately be able to repay the deposits which, being speculating organizations, they were not justified in obtaining.

Our table is confined to institutions which have received deposits from the public. Had we included other companies which have silently gone into liquidation, the table would have been greatly extended.

THE SYDNEY SUSPENSIONS.

In our last issue we presented a compilation of the accounts of twenty-one financial institutions which have suspended payment in Melbourne since July, 1891, and reviewed the aggregate figures in our leading columns. In this issue we present a similar table, showing the accounts of twenty land, building, and finance companies which have suspended payment in Sydney since August last.

The Sydney suspended institutions, with few exceptions, differ materially from those of Melbourne. Nearly all of them have combined land-dealing with building-society business, while in Melbourne the building societies which have suspended have confined themselves to their proper business, the bulk of the failures being those of property companies, inclusive of so-called mortgage "banks."

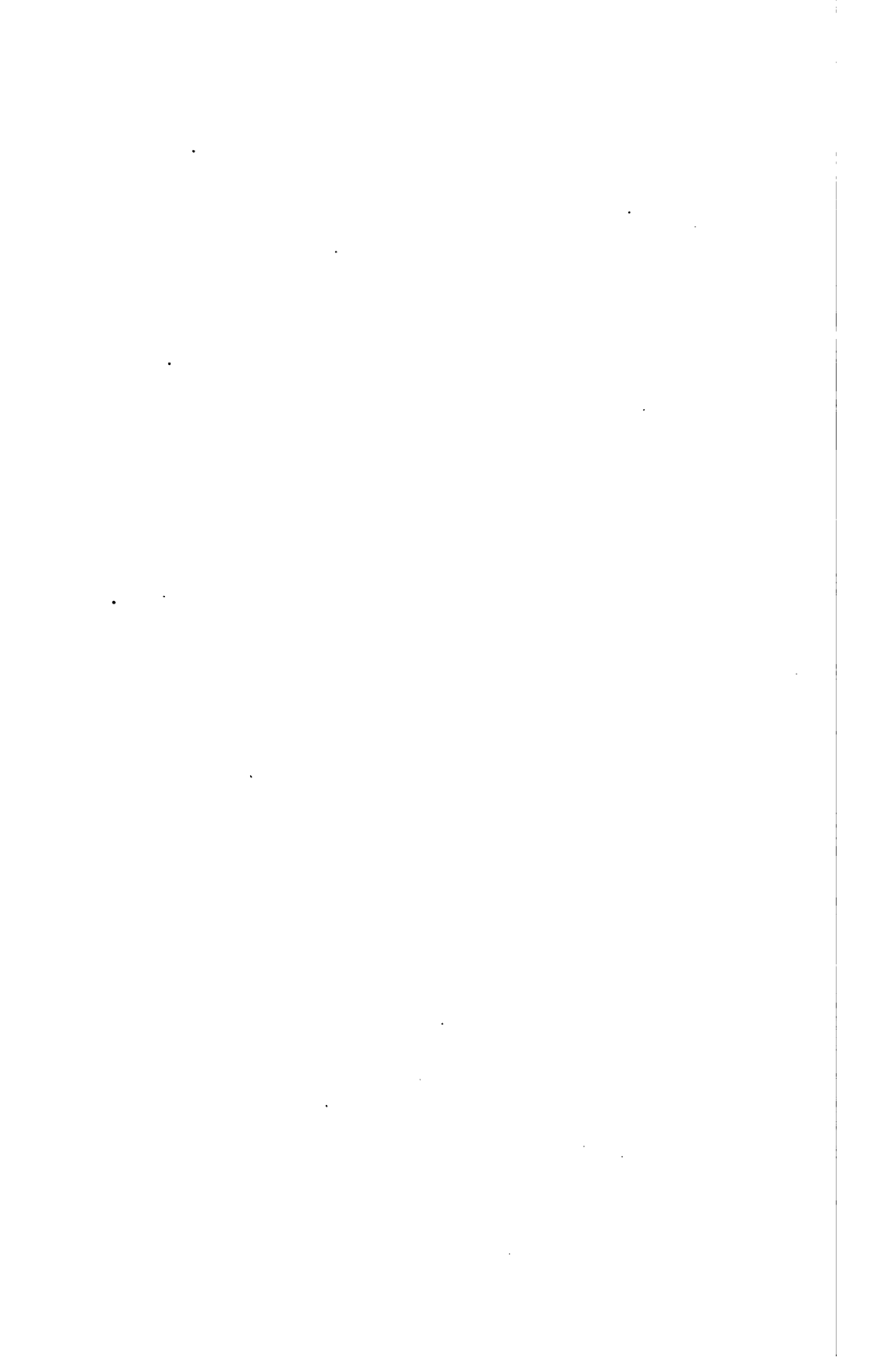
Although the number (twenty) of Sydney institutions given in our table is almost the same as that (twenty-one) of the Melbourne institutions tabulated last month, the total assets are but little more than a third, amounting to £6,503,114, against £18,677,908. From this statement it follows that the collapse in Sydney will not nearly so greatly affect the public as that in Melbourne. And, further, so long as land business can offer a proper outlet for the investment of money received from the depositors, the investment has been made on far narrower lines in Sydney than in Melbourne, the amount held on deposit in Sydney being £3,612,473, as compared with £10,943,589 in Melbourne.

Of the deposits only a relatively small proportion (under £500,000 in all) has been obtained in the United Kingdom, while the Melbourne institutions have obtained £3,500,000

since July, 1891.

	Liabilities to the public.			Total	Assets.			
	Deposits (occasionally including debentures).	Owing to bank (when shown separately).	Other indebtedness.		Properties.	Outstanding accounts and other assets.	Cash.	Total assets.
.....	£109,898	.....	£72,085	£181,983	£2,864	£2,318	£1,990	£272,413
49	158,908	.....	248,680	407,588	.....	4,233	640,440	640,440
11	110,339	.....	390,023	500,362	.....	605	10,683	615,471
.....	172,274	£30,574	674	203,422	.....	7,213	57	267,234
59	360,640	.....	80	360,720	20,535	24,320	2,644	558,003
26	156,005	2,189	329	158,523	.....	5,290	.....	359,708
32	227,032	.....	.....	227,032	24,000	.....	8,626	336,414
00	456,364	1,749	.....	458,113	16,396	1,586	.....	712,836
.....	606,094	90,014	67,550	763,658	221,033	2,555	7,802	1,270,837
.....	978,609	28,387	674	1,007,670	41,458	2,055	34,116	1,410,702
.....	432,524	3,780	549	436,853	8,607	767	.....	657,362
.....	212,838	.....	279,169	492,007	511,523	1,591	9,692	666,109
.....	126,598	13,098	308	140,004	.....	2,242	.....	248,922
.....	742,846	.....	814,518	1,557,364	1,798,306	516	13,605	2,189,168
74	1,381,020	.....	145,080	1,526,100	870,234	5,491	134,488	2,023,759
59	198,644	.....	.....	198,644	.....	.....	8,447	445,637
.....	805,930	12,998	37,591	856,519	336,694	.....	4,571	1,162,433
20	1,831,241	.....	21,155	1,852,396	98,000	3,856	237,726	2,408,169
.....	71,640	17,374	43	89,057	.....	111	218	135,759
37	1,492,365	.....	289	1,492,654	40,000	383	98,295	1,826,679
25	350,783	.....	.....	350,783	3,650	.....	38,589	469,353
82	10,943,589	200,157	2,078,797	13,222,543	3,993,302	60,899	615,785	18,677,908

Metropolitan Building Society, which is also in li



in this way. From all these things we argue that the loss falling or to fall on both shareholders and depositors in Sydney will be less considerable than in Melbourne.

The special legislation devised by the New South Wales parliament is also promotive of confidence, while the voluntary liquidation act of Victoria, by stifling inquiry and removing contracts between borrowers and lenders from the control of the court, has bred suspicion and unrest.

Having been compelled to take the figures furnished by the quarterly average statement in a few cases, the two divisions of the table, which appears elsewhere, are hardly in balance, the discrepancy being, however, so small as to be of little consequence.

The twenty Sydney companies employ paid-up capital amounting to £1,189,072 and reserves and undivided profits amounting to £378,429. The uncalled capital is relatively small, and the shareholders will not, therefore, under any circumstances, be greatly pressed to find more money. The indebtedness of the companies to the public is shown as follows:

Deposits, "including debentures in the case of two companies".....	£3,612,473
Owing to banks.....	153,259
Other liabilities, principally on account of land-purchasing.....	1,139,404
Total.....	4,905,136

This total is represented by assets amounting to £6,503,114, made up as follows:

Loans, advances, balances due on sales, etc.....	£3,052,855
Properties unsold.....	3,217,656
Other assets.....	160,993
Cash.....	71,610
Total.....	6,503,114

The smallness of the cash item (only a little more than 1 per cent of the gross assets) directly suggests the cause of most of the suspensions. There were no reserves, and directly the public became uneasy the companies were in difficulties.

In Sydney, as in Melbourne, the companies dealing in real property traded with "an exuberance of faith and a deficiency of cash," the style of business possibly suited to church-building on credit, but not to the practical concerns of everyday life.

As we have already seen, the total due to the shareholders is £1,567,501. This sum bears a ratio of 24 per cent to gross assets and one of 49½ per cent to the amount represented by unsold property. Some portion of the property held is rent-producing. It is possible that little loss will be incurred, but any opinion on the subject would be mere conjecture. All that can be safely assumed is that in all probability little or no loss will fall on shareholders in the case of the old institutions, such as the Haymarket, the St. Joseph's, the Australian Mutual, and others.

Of the twenty companies, six have been forced into compulsory liquidation, three have gone into voluntary liquidation, and eleven (representing nearly three and three-fourths millions of assets) have made arrangements with their depositors under which the necessity for liquidation is, at least for the present, avoided. Criminal prosecutions were entered upon in connection with three institutions, convictions were obtained, and heavy sentences inflicted. These institutions were, however, small.

We bring this article to a close by presenting the following summary of the principal items of the compilation of the accounts of the Melbourne and the Sydney suspended institutions:

Description.	Twenty-one Melbourne companies.	Twenty Sydney com- panies.	Total.
Capital paid up.....	£4,232,362	£1,189,072	£5,421,434
Reserve fund and undivided profits.....	1,140,121	378,429	1,518,550
Total due to the shareholders.....	5,372,483	1,567,501	6,939,984
Deposits.....	10,943,589	3,612,473	14,556,062
Owing to banks.....	200,157	155,259	355,416
Other indebtedness.....	2,078,797	1,139,404	3,218,201
Total due to the public.....	13,222,543	4,907,136	18,129,679
Loans, advances, balances due on sales, etc.....	14,007,922	3,052,855	17,060,777
Properties	3,993,302	3,217,656	7,210,958
Other assets.....	676,684	232,603	909,287
Total assets.....	18,677,908	6,503,114	25,181,022

The suspensions in the two centers have thus involved assets amounting to over £25,000,000, of which about one-fourth is held by the Sydney companies and three-fourths by the Melbourne companies.

8 August, 1891.

Share- holders of the Co.	Liabilities to the public.			Total liabilities.	Assets.		
	Deposits (occasionally including debentures).	Owing to bank (when shown sepa- rately).	Other in- debtedness.		Land- ing value per as- set.	Cash.	Total assets.
1000	£35,480	£2,099	£27,772	£65,351	£31	£29	£81,914
.....	127,618			201,187	315	15,006	201,187
.....	17,200			17,995	102	83	13,216
303	18,292		2,119	37,611	958	164	35,129
.....	20,986	26,476	34,232	95,784	827	3,306	95,784
.....	41,647	1,266	30,885	120,121	580	250	120,121
.....	338,037	33,369	116,785	548,701	631		548,701
.....	115,374	18,790	76,317	263,474	590	249	263,474
.....	340,427	1,128	12,856	539,574	525		539,574
.....	77,038			105,884	316	592	105,884
929	154,464	7,443	98,906	401,467	260	2,161	401,467
319	290,567		27,886	418,178	724	3,619	418,178
054	97,878	5,773	447	224,138	680	8,995	224,138
.....	16,800			27,060	686		18,635
490	532,192		386,032	1,121,393	428	12,045	1,121,323
.....	105,053	18,544	31,837	255,005	013	561	255,005
816	323,589	20,883	215	480,673			480,673
.....	93,148	17,488	25,238	171,807	709	1,168	171,807
019	741,664		182,661	1,127,054	328	15,746	1,127,054
.....	125,019		65,216	279,850	300	7,636	279,850
.....	3,612,473	155,259	1,139,404		0,993	71,610	6,503,114

is fully paid-up shares (£12,000) given to the promoter of the Co. estimated at £12,000.

Publication of the accounts the book value of the properties has been added to other liabilities.

and (£399,991).

APPENDIX.

ENGLISH LAWS RELATING TO BUILDING SOCIETIES.

AN ACT TO CONSOLIDATE AND AMEND THE LAWS RELATING TO BUILDING SOCIETIES
(JULY 30, 1874).*

1. This act may be cited as the building societies act, 1874.

* * * * *

5. A terminating society in this act means a society which by its rules is to terminate at a fixed date or when a result specified in its rules is attained; a permanent society means a society which has not by its rules any such fixed date or specified result at which it shall terminate.

* * * * *

[Section 8 provides for the continuation of societies created under a former act.]

9. Every society now subsisting or hereafter established shall, upon receiving a certificate of incorporation under this act, become a body corporate by its registered name, having perpetual succession, until terminated or dissolved in manner herein provided, and a common seal.

[Sections 10, 11, and 12 establish rules to be followed by existing societies to obtain certificates of incorporation.]

13. Any number of persons may establish a society under this act, either terminating or permanent, for the purpose of raising by the subscriptions of the members a stock or fund for making advances to members out of the funds of the society upon security of freehold, copyhold, or leasehold estate by way of mortgage; and any society under this act shall, so far as is necessary for the said purpose, have power to hold land with the right of foreclosure, and may from time to time raise funds by the issue of shares of one or more denominations, either paid up in full or to be paid by periodical or other subscriptions, and with or without accumulating interest, and may repay such funds when no longer required for the purposes of the society: Provided always, that any land to which any such society may become absolutely entitled by foreclosure, or by surrender, or other extinguishment of the right of redemption shall as soon afterwards as may be conveniently practicable be sold or converted into money.

14. The liability of any member of any society under this act in respect of any share upon which no advance has been made shall be limited to the amount actually paid or in arrear on such share, and in respect of any share upon which an advance has been made shall be limited to the amount payable thereon under any mortgage or other security or under the rules of the society.

15. With respect to the borrowing of money by societies under this act, the following provisions shall have effect:

(1) Any society under this act may receive deposits or loans, at interest, within the limits in this section provided, from the members or other persons, or from corporate bodies, joint-stock companies, or from any terminating building society, to be applied to the purposes of the society.

*The formal parts of this law and the sections repealing former acts and those defining certain expressions are omitted.

(2) In a permanent society the total amount so received on deposit or loan and not repaid by the society shall not at any time exceed two-thirds of the amount for the time being secured to the society by mortgages from its members.

(3) In a terminating society the total amount so received and not repaid may either be a sum not exceeding such two-thirds as aforesaid or a sum not exceeding twelve months' subscriptions on the shares for the time being in force.

(4) Any deposits with or loans to a society under this act, made before the commencement of this act in accordance with its certified rules, are hereby declared to be valid and binding on the society; but no further deposits or loans shall be received by such society, except within the limits provided by this section.

(5) Every deposit book or acknowledgment or security of any kind given for a deposit or loan by a society shall have printed or written therein or thereon the whole of the fourteenth and fifteenth sections of the present act.

16. The rules of every society hereafter established under this act shall set forth—

(1) The name of the society and chief office or place of meeting for the business of the society.

(2) The manner in which the stock or funds of the society are to be raised, the terms upon which paid-up shares (if any) are to be issued and repaid, and whether preferential shares are to be issued, and, if so, within what limits, if any; and whether the society intends to avail itself of the borrowing powers contained in this act, and, if so, within what limits, not exceeding the limits prescribed by this act.

(3) The purposes to which the funds of the society are to be applied and the manner in which they are to be invested.

(4) The terms upon which shares may be withdrawn and upon which mortgages may be redeemed.

(5) The manner of altering and rescinding the rules of the society and of making additional rules.

(6) The manner of appointing, remunerating, and removing the board of directors or committee of management, auditors, and other officers.

(7) The manner of calling general and special meetings of the members.

(8) Provision for an annual or more frequent audit of the accounts and inspection by the auditors of the mortgages and other securities belonging to the society.

(9) Whether disputes between the society and any of its members, or any person claiming by or through any member or under the rules, shall be settled by reference to the court, or to the registrar, or to arbitration.

(10) Provision for the device, custody, and use of the seal of the society, which shall in all cases bear the registered name thereof.

(11) Provision for the custody of the mortgage deeds and other securities belonging to the society.

(12) The powers and duties of the board of directors or committee of management and other officers.

(13) The fines and forfeitures to be imposed on members of the society.

(14) The manner in which the society, whether terminating or permanent, shall be terminated or dissolved.

17. The persons intending to establish a society under this act shall transmit to the registrar two copies of the rules agreed upon by them for the government of the society, signed by three of such persons and by the intended secretary or other officer; and the registrar, if he finds that the rules contain all the provisions set forth in section 16 of this act, and that they are in conformity with this act, shall return one copy of the rules to the secretary or other officer of the society, with a certificate of incorporation, and shall retain and register the other copy: Provided that no society shall be registered under this act in a name identical with that in which a subsisting society is already registered, or so nearly resembling the same as to be calculated to deceive, unless such subsisting society is in course of being terminated

or dissolved and consents to such registration. The society shall supply to any person requiring the same a complete printed copy of the rules, with a copy of the certificate of incorporation appended thereto, and shall be entitled to charge for every such printed copy of rules a sum not exceeding 1s.

18. Any society under this act, certified previously to the passing of this act, may alter or rescind any rule or make any additional rule by the vote of three-fourths of the members present at a special meeting called for the purpose, of which meeting notice, specifying the proposed alteration, rescission, or addition, shall be given to the members in the manner provided by the rules of the society, or, in the absence of such rules, by letters sent through the post seven days previous to such meeting; and any society hereafter established may alter or rescind any rule, or make an additional rule, in the manner its rules direct; and every society under this act altering or rescinding any rule, or making an additional rule, shall forward two copies of every resolution for rescission of a rule, and of every alteration of or addition to its rules, signed by three members and the secretary, and a statutory declaration of an officer of the society that the provisions of this section have been complied with, to the registrar, who, if he finds that such alteration, addition, or rescission is in conformity with this act, shall return one of the copies to the secretary or other officer of the society with a certificate of registration and retain and register the other copy.

19. Any society under this act, in a schedule to its rules, may describe the forms of conveyance, mortgage, transfer, agreement, bond, security for deposit or loan, or other instrument necessary for carrying its purposes into execution.

20. Any certificate of incorporation or of registration or other document relating to a society under this act, purporting to be signed by the registrar, shall, in the absence of any evidence to the contrary, be received by the court, and by all courts of law and equity and elsewhere, without proof of the signature; and a printed copy of the rules of a society, certified by the secretary or other officer of the society to be a true copy of its registered rules, shall, in the absence of any evidence to the contrary, be received as evidence of the rules.

21. The rules of a society under this act shall be binding on the several members and officers of the society and on all persons claiming on account of a member or under the rules, all of whom shall be deemed and taken to have full notice thereof.

22. A society under this act may change its name by resolution of three-fourths of the members present at a meeting called for the purpose, provided that the new name is not identical with that of any society previously registered and still subsisting, or so nearly resembling the same as to be calculated to deceive, unless such subsisting society is in course of being terminated or dissolved and consents to such registration. Notice of the change of name shall be sent to the registrar and registered by him, and he shall give a certificate of registration. Such change of name shall not affect any right or obligation of the society, or of any member thereof, or other person concerned.

23. Every officer of a society under this act having the receipt or charge of any money belonging to the society shall, before taking upon himself the execution of his office, become bound with one sufficient surety at the least in a bond according to the form set forth in the schedule to this act, or give the security of a guaranty society, or such other security as the society direct, in such sum as the society require, conditioned for rendering a just and true account of all moneys received and paid by him on account of the society, and for payment of all sums of money due from him to the society, at such times as its rules appoint or as the society require him to do so.

24. Every such officer, his executors or administrators, shall, upon demand made or notice in writing given or left at his last or usual place of residence, give in his account as may be required by the board of directors or committee of management of the society, to be examined and allowed or disallowed by them, and shall, on the like demand or notice, pay over all the moneys remaining in his hands, and deliver all securities and effects, books, papers, and property of the society in his hands or custody to such person as the society appoint; and in case of any neglect or refusal to deliver such account, or to pay over such moneys, or to

deliver such securities and effects, books, papers and property, in manner aforesaid, the society may sue upon the bond, or may apply to the court, who may proceed thereupon in a summary way and make such order thereon as to the court in its discretion shall seem just, which order shall be final and conclusive.

25. Any society under this act may from time to time, as the rules permit, invest any portion of the funds of the society not immediately required for its purposes upon real or leasehold securities, or in the public funds, or in or upon any parliamentary stock or securities, or in or upon any stock or securities payment of the interest on which is guaranteed by authority of Parliament, or, in the case of terminating societies, with other societies under this act; and for the purpose of investments in the public funds or upon security of copyhold or customary estate, the society, or the board of directors or committee of management thereof, may from time to time appoint and remove trustees.

26. When any person in whose name any stock transferable at the Bank of England or Bank of Ireland is standing, either jointly with another or others, or solely, as a trustee for any society under this act, is absent from England or Ireland respectively, or become bankrupt, or files any petition or executes any deed for liquidation of his affairs by assignment or arrangement, or for composition with his creditors, or becomes a lunatic, or is dead, or if it be unknown whether such person is living or dead, the registrar, on application in writing from the secretary or other officer of the society and three members of the board of directors or committee of management thereof, and on proof satisfactory to him, may direct the transfer of the stock into the name of any other person or persons as trustee or trustees for the society; and such transfer shall be made by the surviving or continuing trustee or trustees, and if there be no such trustee, or if such trustee or trustees shall refuse or be unable to make such transfer, and the registrar shall so direct, then by the accountant-general or deputy or assistant accountant-general of the Bank of England or Bank of Ireland, as the case may be; and the governors and companies of the Bank of England and Bank of Ireland, respectively, are hereby indemnified for anything done by them or any of their officers in pursuance of this section against any claim or demand of any person injuriously affected thereby.

27. All rights of action and other rights, and all estates and interests in real and personal estate whatsoever, now belonging to or held in trust for any society certified under the said repealed act, shall, on the incorporation of the society under this act, vest in the society without any conveyance or assignment whatsoever, save and except in the case of stocks and securities in the public funds of Great Britain and Ireland, and estates in copyhold or customary hereditaments, the title to which can not be transferred without admittance.

[Section 28 relates to copyholds.]

29. If any member of or depositor with a society under this act having in the funds thereof a sum of money not exceeding £50 shall die intestate, then the amount due may be paid to the person who shall appear to the directors or committee of management of the society to be entitled under the statute of distributions to receive the same, without taking out letters of administration, upon the society receiving satisfactory evidence of death and a statutory declaration that the member or depositor died intestate, and that the person so claiming is entitled as aforesaid: Provided, that whenever the society, after the decease of any member or depositor, has paid any such sum of money to the person who at the time appeared to be entitled to the effects of the deceased under the belief that he had died intestate, the payment shall be valid and effectual with respect to any demand from any other person as next of kin or as the lawful representative of such deceased member or depositor against the funds of the society; but nevertheless such next of kin or representative shall have his lawful remedy for the amount of such payment as aforesaid against the person who has received the same.

30. Whenever a member of a society under this act, having executed a mortgage to the society, shall die intestate, leaving an infant heir or infant coheir, it shall be lawful for the said society, after selling the premises so mortgaged to them, to pay to the administrator or administratrix of the deceased member any money, to the amount of £150, which shall remain in the hands of the said society after paying the amount due to the society and the

costs and expenses of the sale, without being required to pay the same into the Post-Office Savings Bank, as provided by the trustees relief act and the acts amending or extending the same; the said sum of £150 to be considered as personal estate and liable to duty accordingly.

31. If any person whosoever, by false representation or imposition, obtains possession of any moneys, securities, books, papers, or other effects of a society under this act, or, having the same in his possession, withholds or misapplies the same, or willfully applies any part thereof to purposes other than those expressed or directed in the rules of the society and authorized by this act, he shall be liable on summary conviction to a penalty not exceeding £20, with costs not exceeding 20s., and to be ordered to deliver up to the society all such moneys, securities, books, papers, or other effects to the society, and to repay the amount of money applied improperly, and in default of such delivery of effects, or repayment of such amount of money, or payment of such penalty and costs aforesaid, to be imprisoned, with or without hard labor, for any time not exceeding three months; but nothing herein contained shall prevent any such person from being proceeded against by way of indictment if a conviction has not been previously obtained against him for the same offense under the provisions of this act.

32. A society under this act may terminate or be dissolved—

(1) Upon the happening of any event declared by its rules to be the termination of the society.

(2) By dissolution in manner prescribed by its rules.

(3) By dissolution with the consent of three-fourths of the members, holding not less than two-thirds of the number of shares in the society, testified by their signatures to the instrument of dissolution. The instrument of dissolution shall set forth—

(a) The liabilities and assets of the society in detail.

(b) The number of members and the amount standing to their credit in the books of the society.

(c) The claims of depositors and other creditors and the provision to be made for their payment.

(d) The intended appropriation or division of the funds and property of the society.

(e) The names of one or more persons to be appointed trustees for the special purpose and their remuneration.

Alterations in the instrument of dissolution may be made with the like consent, testified in the same manner. The instrument of dissolution and all alterations therein shall be registered in the manner provided for the registration of rules and shall be binding upon all the members of the society.

(4) By winding up, either voluntarily under the supervision of the court or by the court, if the court shall so order, on the petition of any member authorized by three-fourths of the members present at a general meeting of the society specially called for the purpose to present the same on behalf of the society, or on the petition of any judgment creditor for not less than £50, but not otherwise. General orders for regulating the proceedings of the court under this section may be from time to time made by the authority for the time being empowered to make general orders for the court.

Notice of the commencement and termination of every dissolution or winding up shall be sent to the registrar and registered by him.

33. Two or more societies under this act may unite and become one society, with or without any dissolution or division of the funds of such societies or either of them, or a society under this act may transfer its engagements to any other such society upon such terms as shall be agreed upon by three-fourths of the members (holding not less than two-thirds of the whole number of shares) of each of such societies present at general meetings respectively convened for the purpose; but no such transfer shall prejudice any right of any creditor of either society. Notice of every such union or transfer shall be sent to the registrar and registered by him.

34. Where the rules of a society under this act direct disputes to be referred to arbitration, arbitrators shall be named and elected in the manner such rules provide, or, if there be no such provision, at the first general meeting of the society, none of the said arbitrators being beneficially interested, directly or indirectly, in its funds; of whom a certain number, not less than three, shall be chosen by ballot in each such case of dispute, the number of the said arbitrators and mode of ballot being determined by the rules of the society. The names of such arbitrators shall be duly entered in the minute book of the society, and, in case of the death or refusal or neglect of any of the said arbitrators to act, the society, at a general meeting, shall name and elect an arbitrator to act in the place of the arbitrator dying or refusing or neglecting to act; and whatever award shall be made by the arbitrators or the major part of them, according to the true purport and meaning of the rules of the society, shall determine the dispute; and should either of the parties to the dispute refuse or neglect to comply with or conform to such award within a time to be limited therein, the court, upon good and sufficient proof being adduced of such award having been made and of the refusal of the party to comply therewith, shall enforce compliance with the same upon the petition of any person concerned. Where the parties to any dispute arising in a society under this act agree to refer the dispute to the registrar, or where the rules of the society direct disputes to be referred to the registrar, the award of the registrar shall have the same effect as that of arbitrators.

35. The court may hear and determine a dispute in the following cases :

(1) If it shall appear to the court, upon the petition of any person concerned, that application has been made by either party to the dispute to the other party for the purpose of having the dispute settled by arbitration under the rules of the society, and that such application has not within forty days been complied with, or that the arbitrators have refused or for a period of twenty-one days have neglected to make any award.

(2) Where the rules of the society direct disputes to be referred to the court or to justices.

36. Every determination by arbitrators or by the court or by the registrar under this act of a dispute shall be binding and conclusive on all parties, and shall be final to all intents and purposes, and shall not be subject to appeal, and shall not be removed or removable into any court of law or restrained or restrainable by the injunction of any court of equity: Provided always, that the arbitrators, or the registrar, or the court, as the case may be, may, at the request of either party, state a case for the opinion of the supreme court of judicature on any question of law, and shall have power to grant to either party to the dispute such discovery, as to documents and otherwise, as might now be granted by any court of law or equity, such discovery to be made on behalf of the society by such officer of the society as the arbitrators, registrar, or court may determine.

37. A society under this act may purchase, build, hire, or take upon lease any building for conducting its business, and may adapt and furnish the same, and may purchase or hold upon lease any land for the purpose only of erecting thereon a building for conducting the business of the society, and may sell, exchange, or let such building or any part thereof.

38. Any person under the age of 21 years may be admitted as a member of any society under this act, the rules of which do not prohibit such admission, and may give all necessary acquittances; but during his nonage he shall not be competent to vote or hold any office in the society.

39. Two or more persons may jointly hold a share or shares in any society under this act; and all shares held jointly by any two or more persons in any society subsisting at the time appointed for the commencement of this act, the rules whereof shall not prohibit such joint holding, shall be deemed to be lawfully so held.

40. The secretary or other officer of every society under this act, shall, once in every year at least, prepare an account of all the receipts and expenditures of the society since the preceding statement, and a general statement of its funds and effects, liabilities, and assets, showing the amounts due to the holders of the various classes of shares respectively, to depositors and creditors for loans, and also the balance due or outstanding on their mortgage

securities (not including prospective interest), and the amount invested in the funds or other securities; and every such account and statement shall be attested by the auditors, to whom the mortgage deeds and other securities belonging to the society shall be produced, and such account and statement shall be countersigned by the secretary or other officer; and every member, depositor, and creditor for loans shall be entitled to receive from the society a copy of such account and statement, and a copy thereof shall be sent to the registrar within fourteen days after the annual or other general meeting at which it is presented, and another copy thereof shall be suspended in a conspicuous place in every office of the society under this act.

[Section 41 relates to exemption from stamp duties.]

42. When all moneys intended to be secured by any mortgage or further charge given to a society under this act in England or Ireland have been fully paid or discharged, the society may indorse upon or annex to such mortgage or further charge a reconveyance of the mortgaged property to the then owner of the equity of redemption, or to such persons and to such uses as he may direct, or a receipt under the seal of the society, countersigned by the secretary or manager, in the form specified in the schedule to this act, and such receipt shall vacate the mortgage or further charge or debt and vest the estate of and in the property therein comprised in the person for the time being entitled to the equity of redemption, without any reconveyance or surrender whatever; and if the said mortgage or further charge has been registered under any act for the registration or record of deeds or titles, the registrar under such act, or his deputy or assistant registrar, or the recording officer, as the case may be, or, in the case of copyholds or lands of customary tenure, if the mortgage or further charge has been entered on any court rolls, the steward of the manor or his deputy, respectively, shall, on production of such receipt, verified by oath of any person, make an entry opposite the entry of the charge or mortgage to the effect that such charge or mortgage is satisfied, and shall grant a certificate, either on the said mortgage or charge or separately, to the like effect, which certificate shall be received in evidence in all courts and proceedings without any further proof, and which entry shall have the effect of clearing the register or record of such mortgage; and the registrar or recording officer shall be entitled to a fee of 2s. 6d. for making the said entry and granting the said certificate, and such fee shall in Ireland be paid by stamps, and applied as the other fees of the registry of deeds office and record of title office are now by law directed to be paid and applied.

43. If any society hereafter formed under this act, or any persons representing themselves to be a society under this act, commence business without first obtaining a certificate of incorporation under this act, or if any society under this act makes default in forwarding to the registrar any returns or information by this act required, or in inserting in any deposit book or acknowledgment or security for loan the matters required by section 15 of this act to be inserted therein, or makes a return willfully false in any respect, the person or persons by whom business shall have been so commenced, or by whom such default shall have been made, or who shall have made such willfully false return, shall be liable for every day business is so carried on, or for every such default or false return, upon summary conviction before justices at the complaint of the registrar, to a penalty not exceeding £5. If any society under this act receives loans or deposits in excess of the limits prescribed by this act, the directors or committee of management of such society receiving such loans or deposits on its behalf shall be personally liable for the amount so received in excess.

44. One of Her Majesty's principal secretaries of state may from time to time make regulations respecting the fees, if any, to be paid for the transmission, registration, and inspection of documents under this act, and generally for carrying this act into effect. The registrar shall give his certificates in the forms contained in the schedule to this act, respectively.

Form of bond.

Know all men by these presents, That we, A. B., of ———, one of the officers of the ——— Building Society, established at ———, in the county of ———, and C. D., of ——— (as surety on behalf of the said A. B.), are jointly and severally held and firmly bound to the said society in the sum of ———, to be paid to the said society, for which payment well and truly to be made we jointly and severally bind ourselves, and each of us by himself, our and each of our heirs, executors, and administrators, firmly by these presents, sealed with our seals. Dated the ——— day of ———, in the year of our Lord ———.

Whereas the above-bounden A. B. hath been duly appointed to the office of ——— of the ——— Building Society, established as aforesaid, and he, together with the above-bounden C. D. as his surety, have entered into the above-written bond, subject to the condition hereinafter contained:

Now, therefore, the condition of the above-written bond is such that if the said A. B. shall and do render a just and true account of all moneys received and paid by him, and shall and do pay over all the moneys remaining in his hands, and assign and transfer or deliver all securities and effects, books, papers, and property of or belonging to the said society in his hands or custody to such person or persons as the said society shall appoint, according to the rules of the said society, together with the proper or legal receipts or vouchers for such payments, then the above-written bond shall be void and of no effect, otherwise it shall be and remain in full force and virtue.

Form of receipt to be indorsed on mortgage or further charge.

The ——— Building Society hereby acknowledge to have received all moneys intended to be secured by the within [or above] written deed.

In witness whereof the seal of the society is hereto affixed this ——— day of ———, by order of the board of directors [or committee of management] in presence of

—————, *Secretary* [or *Manager*]. [L. s.]
[Other witnesses, if any required by the rules of the society.]

Certificate of incorporation.

I, ———, registrar of ——— building societies in [England, Scotland, or Ireland], hereby certify that the ——— Building Society, established at ———, in the county of ———, is incorporated under "the building societies act, 1874."

Given under my hand this ——— day of ———, 18—.

—————,
Registrar of Building Societies.

Certificate of registration of alteration of rules.

I, ———, registrar of building societies in [England, Scotland, or Ireland], hereby certify that the foregoing alterations of [or addition to] the rules of the ——— Building Society, established at ———, in the county of ———, are registered under "the building societies act, 1874."

Given under my hand this ——— day of ———, 18—.

—————,
Registrar of Building Societies

Certificate of registration of change of name.

I, _____, registrar of building societies in [England, Scotland, or Ireland], hereby certify that the registered name of the _____ Building Society, established at _____, in the county of _____, is changed from the date hereof to the name following: _____, pursuant to "the building societies act, 1874."

Given under my hand this _____ day of _____, 18—.

_____,
Registrar of Building Societies.

AN ACT TO AMEND THE BUILDING SOCIETIES ACT, 1874 (AUGUST 14, 1877).

* * * * *

2. Any society under the principal act may change its chief office in the manner its rules direct, or, if there be no such direction, then at a general meeting specially called for the purpose, in the manner set forth in the rules of the society; and no alteration of rule shall be necessary upon such change, nor shall the provisions of section 18 of the principal act apply to such change. Notice of every such change shall be given by the secretary of the society to the registrar within seven days after such change, and shall be registered by him, and he shall give a certificate of such registration.

3. Section 27 of the principal act shall be read as if the word "now" were omitted therefrom.

4. All rights of action and other rights and interests in real and personal estate whatsoever held in trust for any society heretofore incorporated under the principal act shall, on the passing of this act, vest in the society, without any conveyance or assignment whatsoever, except in the case of stocks and securities in the public funds of Great Britain and Ireland and estates in copyhold or customary hereditaments the title to which can not be transferred without admittance.

5. The registration by the registrar of the notice of the union of any societies, or of the transfer of the engagements of any society to another society, in terms of and subject to the provisions of section 33 of the principal act, shall operate as an effectual conveyance, transfer, and assignment, as at the date of the said registration, of the funds, property, and assets of the societies so uniting to the united society or of the society transferring its engagements to the society to which such engagements may be transferred, as may be set forth in the instrument of union or transfer of engagements, without any conveyance, transfer, or assignment whatsoever, save and except in the case of stocks and securities in the public funds of Great Britain and Ireland and estates in copyhold or customary hereditaments the title to which can not be transferred without admittance: Provided always, that such union or transfer of engagements shall not affect the rights of any creditor of either or any society uniting or transferring its engagements.

6. The forms in the schedule to this act shall henceforth be used under the building societies acts.

Certificate of incorporation.

The registrar of building societies in [England, Scotland, or Ireland] hereby certifies that the _____ Building Society, established at _____, in the county of _____, is incorporated under "the building societies act, 1874."

This _____ day of _____, 18—.

[Seal of central office or signature of assistant registrar of friendly societies.]

Certificate of registration of alteration of rules.

The registrar of building societies in [England, Scotland, or Ireland] hereby certifies that the foregoing alterations of [or addition to] the rules of the ——— Building Society, established at ———, in the county of ———, are registered under "the building societies act, 1874."

This ——— day of ———, 18—.

[Seal of central office or signature of assistant registrar of friendly societies.]

Certificate of registration of change of name.

The registrar of building societies in [England, Scotland, or Ireland] hereby certifies that the registered name of the ——— Building Society, established at ———, in the county of ———, is changed from the date hereof to the name following: ———.

This ——— day of ———, 18—.

[Seal of central office or signature of assistant registrar of friendly societies.]

Certificate of alteration of chief office.

The registrar of building societies in [England, Scotland, or Ireland] hereby certifies that the registered chief office of the ——— Building Society, established at ———, in the county of ———, is changed from the date hereof to the office or place following: ———.

This ——— day of ———, 18—.

[Seal of central office or signature of assistant registrar of friendly societies.]

AN ACT TO AMEND THE BUILDING SOCIETIES ACT, 1874 (AUGUST 7, 1884).

* * * * *

2. The word "disputes" in the building societies acts, or in the rules of any society thereunder, shall be deemed to refer only to disputes between the society and a member, or any representative of a member in his capacity of a member of the society, unless by the rules for the time being it shall be otherwise expressly provided; and, in the absence of such express provision, shall not apply to any dispute between any such society and any member thereof, or other person whatever, as to the construction or effect of any mortgage deed, or any contract contained in any document, other than the rules of the society, and shall not prevent any society, or any member thereof, or any person claiming through or under him, from obtaining in the ordinary course of law any remedy in respect of any such mortgage or other contract to which he or the society would otherwise be by law entitled: Provided always, that nothing in this act shall apply to any dispute pending at any time before the passing of this act between any such society and any member thereof, or other person, which before the passing of this act shall have been actually referred, or agreed to be referred, to arbitration, or as to which the jurisdiction of any court of law shall have been adjudged to be excluded by a decision of any court of competent jurisdiction in an action or suit between the society and any member thereof or other person.

BUILDING SOCIETIES OF IRELAND.

Return of the registrar of building societies for Ireland of the building societies incorporated under the building societies acts, 1874 and 1875, to December 31, 1890.

Name of society.	Year when incorporated.	Year of the society's existence.	Date to which accounts are made up.	Number of members.	Total receipts during last financial year.	Liabilities.		Balance of unappropriated profit.	Balance deficit.	Assets.	
						Holders of shares.	Depositors and other creditors.			Balance due on mortgage securities (not including prospective interest).	Amounts invested in other securities and cash.
Cork Investment, Land, and Building.....	1875	Thirty-ninth.....	June 30	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Kingstown Tradesmen's Benefit Building.....	1875	Thirty-eighth.....	Dec. 31	50	£323	£246				£200	£46
Workingman's Benefit Building, Dublin.....	1875	Twenty-ninth.....	Dec. 31	775	23,952	48,428	£1,489	£1,179		49,493	1,603
Belfast Equitable Building.....	1874	Twenty-eighth.....	Jan. 11	120	30,035	19,192	6,045	6,702		14,277	17,712
St. Michael's Benefit Building, Kingstown.....	1875	.....do.....	Dec. 31	110	3,866	6,343	367	69		16,436	344
Coleraine Building.....	1876	.....do.....	Jan. 22	415	7,207	44,716		698		45,015	1,189
Union Building, Belfast.....	1875	Twenty-sixth.....	Feb. 28	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Economic Building and Investment, Belfast.....	1875	Twenty-eighth.....	Apr. 30	177	6,247	18,065	5,701	681		23,379	68
Ulster Permanent Building, Belfast.....	1874	Twentieth.....	Dec. 31	156	11,781	19,717	10,978	400	£1,575	20,499	
Irish Civil Service Permanent Building, Dublin.....	1874	Twenty-ninth.....	Nov. 30	1,261	26,121	139,723	76,320	369		202,575	27,908
Londonderry Provident Building.....	1870	Sixteenth.....	Dec. 31	211	11,813	13,096	16,260	511		28,232	1,635
City of Derry Building, Londonderry.....	1870	.....do.....	May 1	.....	.....	.....	.....	.....	.....	.....	.....
Irish Industrial Benefit Building, Dublin.....	1878	Eighteenth.....	Dec. 31	.....	.....	.....	.....	.....	.....	.....	.....
City and County Permanent Benefit Building, Dublin.....	1877	Fifteenth.....	Dec. 31	187	11,004	27,931	1,242	785		26,477	3,454
Dublin Mutual Benefit Building.....	1877	.....do.....	June 30	83	5,521	16,989	148	4,797		20,350	1,563
Equitable Benefit Building, Dublin.....	1878	Fourteenth.....	Feb. 28	.....	4,776	16,492	.....	1,213		16,638	349
Brunswick Benefit Building, Dublin.....	1878	.....do.....	June 30	(†)	(†)	(†)	(†)	(†)	(†)	(†)	(†)
Belfast Imperial Building.....	1882	Twenty-sixth.....	Jan. 10	.....	16,417	16,331	13,298	1,200		28,548	2,281
Northern Permanent Building, Belfast.....	1878	Thirteenth.....	Nov. 1	38	1,011	2,355	93	112		2,759	
St. James Gate Mutual Benefit Building, Dublin.....	1878	.....do.....	Jan. 31	32	1,645	6,181	4,064	2,764		7,092	5,917

* In liquidation.

† Dissolved.

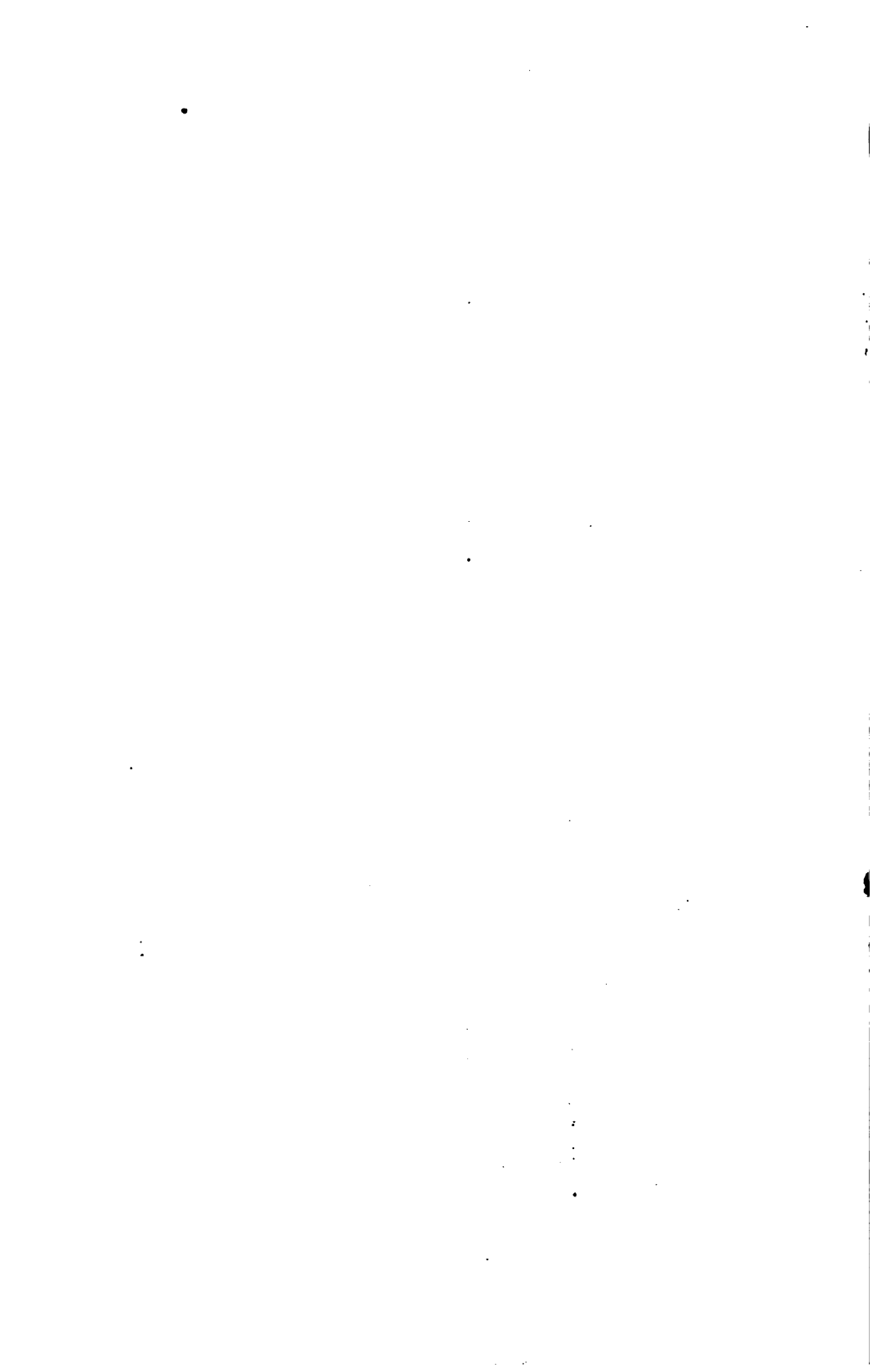
Return of the registrar of building societies for Ireland of the building societies incorporated under the building societies acts, etc.—Continued.

Name of society.	Year when incorporated.	Year of the society's existence.	Date to which accounts are made up.	Number of members.	Total receipts during last financial year.	Liabilities.		Balance of unappropriated profit.	Balance deficit.	Assets.	
						Holders of shares.	Depositors and other creditors.			Balance due on mortgage securities (not including prospective interest).	Amounts invested in other securities and cash.
Dublin Mercantile Permanent Building.	1878	Thirteenth.	June 30	.....	£4,471	£16,066	.....	£614	.....	£15,331	£1,137
Victoria Mutual Terminating, Dublin.	1878	do.	Dec. 31	.....	.....	.....	.....	.....	.....	.....	.....
O'Connell Benefit Building, Dublin.	1879	Twelfth.	Dec. 31	.....	.....	.....	.....	.....	.....	.....	.....
Coöperative Benefit Building, Dublin.	1880	Eleventh.	June 30	.....	.....	.....	.....	.....	.....	.....	.....
Maiden City Terminable Building, Londonderry.	1880	do.	Nov. 1	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
First Belfast 428th Starr-Bowkett Building.	1881	Tenth.	Aug. 31	326	2,442	6,430	.....	270	.....	6,028	673
Second Belfast 447th Starr-Bowkett Building.	1881	do.	Oct. 31	346	2,355	6,989	.....	515	.....	7,021	483
Ballymena 515th Starr-Bowkett Building.	1881	do.	May 31	330	1,023	4,499	.....	346	.....	4,430	114
Commercial Travelers' Benefit Building, Dublin.	1881	Ninth.	Feb. 28	174	8,175	27,957	.....	5,941	.....	35,005	903
Kingstown St. Joseph's Building.	1881	Thirty-third.	Dec. 31	(t)	(t)	(t)	(t)	(t)	(t)	(t)	(t)
First Dublin 568th Starr-Bowkett Building.	1881	Ninth.	Dec. 31	120	2,306	7,075	.....	454	.....	7,366	163
First Londonderry 591st Starr-Bowkett Building.	1883	Eighth.	Apr. 30	.....	.....	.....	.....	.....	.....	.....	.....
Third Belfast 596th Starr-Bowkett Building.	1883	do.	Apr. 30	230	1,879	7,006	.....	460	.....	7,357	124
Londonderry Economic Building.	1883	do.	Nov. 1	116	2,687	5,998	£3,943	.....	.....	9,851	351
Irish Permanent Benefit Building.	1884	Seventh.	Dec. 31	262	812	1,537	.....	56	.....	1,225	369
Belfast Mutual Building.	1885	Sixth.	Mar. 30	435	5,226	14,406	.....	772	.....	13,936	1,243
Fourth Belfast 771st Starr-Bowkett Building.	1885	do.	Mar. 28	448	2,858	6,187	6	141	.....	5,665	670
Second Londonderry 656th Starr-Bowkett Building.	1885	do.	Mar. 31	239	1,400	4,549	.....	42	.....	4,105	486
The Ballymena Mutual Building.	1886	Fifth.	Mar. 31	394	817	1,284	.....	48	.....	1,284	48
First Limerick 782d Starr-Bowkett Building.	1886	do.	Mar. 31	467	1,537	3,434	2	263	.....	3,277	392
Fifth Belfast 796th Starr-Bowkett Building.	1886	do.	Apr. 26	446	1,458	3,971	5	.....	.....	3,534	542
The Llanter Benefit Building, Dublin.	1887	do.	Mar. 31	224	6,292	11,776	24	1,953	.....	15,535	219
Belfast Commercial Building.	1887	Fourth.	Jan. 31	463	2,485	4,953	1	278	.....	4,510	711
The Industrial Building, Londonderry.	1887	Third.	Apr. 30	119	3,064	2,099	1,995	.....	.....	4,095	.....

† Broken up.

* Dissolved.

The First Dundalk and District 877th Starr-Bowkett Building.....	1887	.....do.....	May 26	419	1,197	2,638	.....	.....	.....	2,300	338
The Royal Mutual Building, Belfast.....	1888	.....do.....	June 30	.....	.....	.....	.....	.....	.....	.....	.....
Belfast City Building.....	1888	.....do.....	Aug. 5	458	2,260	3,266	.....	137	.....	2,889	515
Belfast Artisans' Building.....	1888	.....do.....	Oct. 6	305	1,087	1,395	.....	31	.....	1,032	.....
The Cork Permanent Building.....	1888	.....do.....	Jan. 6	21	2,145	1,800	1,140	36	.....	2,921	55
Sixth Belfast 93d Starr-Bowkett Building.....	1888	.....do.....	Dec. 29	278	693	983	.....	.....	21	568	414
East End Building, Belfast.....	1889	Second.....	Dec. 31	146	449	699	.....	.....	2	476	222
Provident Mutual Building, Belfast.....	1889	.....do.....	Feb. 28	194	1,202	1,814	.....	.....	4	1,718	92
Royal Mutual Building, Belfast.....	1889	.....do.....	Aug. 30	350	1,172	965	.....	73	.....	392	617
Dublin Model Building.....	1889	.....do.....	July 14	546	2,123	1,927	.....	45	.....	874	1,098
Munster Permanent Building, Cork.....	1889	.....do.....	Dec. 31	32	6,028	2,962	2,529	243	.....	5,734	.....
Progressive Terminable Building, Londonderry.....	1889	.....do.....	Oct. 31	.....	1,155	784	1,161	115	.....	2,060	.....
Belfast Terminable Building.....	1890	.....do.....	Apr. 30	419	968	748	.....	85	.....	792	4
The Londonderry Equitable Terminating Building.....	1890	.....do.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
The National Permanent Building, Dublin.....	1890	.....do.....	Dec. 31	19	312	.....	.....	5	.....	175	137
The Belfast Mercantile Mutual Building.....	1890	.....do.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
The Ballymacarrett Building.....	1890	First.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
The Thrift Building, Belfast.....	1890	.....do.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belfast Co-operative Building.....	1890	.....do.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
The Second Equitable Building, Dublin.....	1890	.....do.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
The West End Building, Belfast.....do.....
Total.....do.....	11,941	443,697	552,034	146,811	34,406	1,602	682,476	76,272



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THE HOP CROP OF GERMANY FOR 1893.

The precise area from which the hop product of Germany is gathered each successive year can not be definitely ascertained until the final statistics are reported at the close of the harvest. But as the lands devoted to hop culture vary not more than from 3 to 5 per cent from year to year, and are in general steadily though slowly declining, it may be safely assumed that the area of growth this season does not differ essentially from that of the two preceding years, viz, for the whole of Germany, 109,825 acres in 1891 and 107,719 acres in 1892.

In ordinary years the quantity of the hop crop of Germany is practically decided by the weather of July and August; its quality is determined by the weather of September. This year, however, the conditions are so abnormal, the season being in advance of an ordinary summer, that the foregoing maxim no longer applies in its full sense. By September 1 the hop harvest will be in full activity throughout all of southern Germany, and will be finished by the 12th or 15th of the month. The disastrous drought which began in July of last year continued through the winter and an exceptionally warm, early spring. By the middle of June the lack of moisture began to affect seriously the growing hop vines, particularly in Alsace, Baden, and Würtemberg. Eastern Germany, especially the frontier province of Posen, fared much better in respect to local rains, and the crop in that section and throughout the whole of Prussia is of excellent quality and in quantity decidedly superior to that of last year. But as Prussia produces only about one-thirteenth of the entire hop crop of the German Empire, the favorable reports from that quarter relieve but slightly the enormous deficit which will be realized in the great hop-growing states of southern Germany, where the drought has wrought the most serious results.

On July 1 it was estimated that the hop harvest of Bavaria, Württemberg, Baden, and Alsace-Lorraine could not, in all probability, yield more than one-fifth of an average crop. About the 5th of July local but wholly insufficient rains fell in some districts, followed about two weeks later by a rainy period of four or five days, during which the rainfall, although hardly sufficient to affect the springs or larger streams, wet the ground quite thoroughly and greatly improved the chances of the still growing crops, notably hops and potatoes. From that date (July 20) the stunted and languishing hop vines seemed imbued with new life, and, although much shorter and less luxuriant than usual, they have in many localities blossomed and set abundantly.

A somewhat careful study of all available reports shows, however, that this rapid improvement, from which so much has been hoped, is in reality far from uniform. Closer observation has recently shown that in many fields the blossoms are almost wholly at the tops of the vines; the lower and interior portions of the plant being nearly destitute of buds, so that a superficial glance over such a field would lead to much larger expectations than the harvest will fulfill. As late as August 17 local reports from a large number of hop-growing districts in Bavaria, Württemberg, and Baden estimate the local yield not higher than from one-third to one-fourth of a normal crop. The weather since August 10 has been intensely hot and dry, so that the danger of rust (*Kupferbrana*), which last year caused serious damage in certain districts, again becomes imminent, though it is not probable that this cause can now seriously compromise the quality of the crop.

Under these peculiar and uncertain conditions the task of estimating accurately the quantity of this year's crop is more than usually difficult; but a consensus of the best official and commercial judgment, based on the latest information, would seem to justify the following predictions, which, for convenience of comparison, are put beside the actual statistics of the preceding year:

Locality.	1892.	1893.
	<i>Metric pounds.</i>	<i>Metric pounds.</i>
Bavaria.....	26,500,000	15,000,000
Württemberg, Baden, and Alsace.....	18,000,000	13,000,000
Prussia and rest of Germany.....	3,700,000	4,500,000
Total.....	48,200,000	32,500,000

There is thus revealed an estimated deficit of 15,700,000 metric pounds of hops, as compared with last year's crop, in Germany, and 19,948,000 pounds less than the average annual yield during the decade from 1881 to 1890, inclusive. The coming crop will therefore be one of the smallest on record during the past half century, and its coming shadow would ere this have precipitated a crisis in the hop market but for the fact that the gloomy situation in this country is relieved by highly favorable reports from Austria, England, Belgium, and the United States. At the principal German hop

markets—Nuremberg, Munich, and Mannheim—the best-informed merchants are now basing their calculations upon the following estimated harvests in other countries, which are here also put into comparison with the statistics of the preceding year:

Country.	1892.	1893.*
	<i>Pounds.</i>	<i>Pounds.</i>
Austria (Bohemia).....	12,000,000	15,000,000
France.....	4,800,000	3,000,000
Other European countries.....	12,000,000	13,500,000
England.....	38,000,000	40,000,000
United States.....	36,500,000	40,000,000
Australia.....	1,500,000	2,000,000

* Estimated.

Adding the sum of these to the figures already given for Germany, it is found that if these estimates are approximately correct the total world's production of hops will be about 146,000,000 metric pounds in 1893, against 153,000,000 pounds during the preceding year, or a net deficit of only about 7,000,000 pounds. In other words, the increased yield in Belgium, Austria, and the United States is expected to supply the usual demand from England and prevent the deficit in Germany from completely demoralizing the general market.

Already, however, prices have sharply advanced. A study of the market record at Nuremberg shows that sales during the past week (August 12 to 19) ranged from \$44.03 to \$46.41 per centner of 100 metric or 110 American pounds, as against \$27.37 to \$29.75 for the corresponding week in 1892 and \$33.32 to \$35.70 for the same period in 1891. These, be it remembered, are at the prices for ordinary Bavarian qualities. Selected lots or bales command readily from \$47 to \$50 per bale, and the choice hops of the Spalt district are quoted anywhere from \$78.50 to \$81 per bale.

Such is the outlook, as to quantity, ten days before the beginning of the German hop harvest. In respect to quality, nothing is absolutely certain until the crop is actually gathered and cured, but all present indications are that the quality of this year's meager yield will be uniform and good.

FRANK H. MASON,
Consul-General.

FRANKFORT, *August 21, 1893.*

RUSSO-GERMAN TARIFF CONTEST.

I invite attention to the following facts, which may prove of interest at this season of agricultural depression.

The commissioners appointed by Germany and Russia to negotiate a commercial treaty have not been able to come to terms.

The negotiations having failed to result in an agreement, Russia announced her determination to enforce the tariff against Germany from August 1 next.

Germany, in answer to this announcement, decided to levy an additional import duty of 50 per cent on articles from Russia.

The various phases through which the negotiations have passed will be seen by reference to the inclosed translation of a memorandum which accompanied the proposal laid before the federal council by the imperial chancellor.

The customs acts of 1889 empowered the German Government, with the assent of the federal council, to levy an additional duty of 50 per cent upon the products of those countries which treat articles of German origin less favorably than those of other states.

The increased tariff may be enforced at once, but the decision to do so must be laid before the Imperial Diet as soon as it meets in the autumn.

The Imperial Diet has the power to annul the decision. It is therefore impossible to predict at this time what effect this commercial war will have on our trade or the prices of our agricultural products.

Should the war be prolonged any length of time beyond the autumn, Germany must look to the United States for a much larger supply of cereals than heretofore.

The rye harvest of Germany promises to turn out well. Still, a very large supply of cereals will be required, not only for the commissariat, but also for the horses of the army.

This is a favorable moment to push the cause of Indian corn in Germany.

W. H. EDWARDS,
Consul-General.

BERLIN, *July 29, 1893.*

MEMORANDUM ACCOMPANYING THE PROPOSAL LAID BEFORE THE FEDERAL COUNCIL BY
THE IMPERIAL CHANCELLOR.

[From the *Reichsanzeiger* of July 28, 1893.—Translation.]

The bill for a law in regard to the imposing of additional duty on wares coming from Russia was laid before the federal council for its consideration on the 25th instant by the imperial chancellor. The bill was accompanied by the following:

MEMORANDUM.

Germany's export trade with Russia has for many years suffered from Russia's high and rising rates of duty. Constant complaints have been made on this subject in German industrial circles, and the obtainment of easier conditions for the export trade has been demanded. For various industrial and commercial circles this demand was so much the more justified as the trade from Germany was not subjected to impartial treatment in the custom-houses of the Russian Empire, partly owing to increased differential customs duties on the German-Russian frontier and partly owing to concessions granted to third states in connection with importations into Finland.

It was therefore agreeable to the Government of His Majesty the Emperor that the Imperial Russian Government in the winter of 1890-'91, influenced by the beginning of commercial-treaty negotiations between Germany and Austria-Hungary, proposed the discussion of a customs agreement between Russia and Germany. The Imperial Russian Government based its policy in making this proposition upon the belief that Germany was dependent upon Russian grain exportations for the covering of its import needs, and that therefore, in return for the granting of concessions in the German grain duties, it could not make any claims to Russian tariff concessions. The German proposal, in consequence of this Russian theory, to exclude the German grain duties from the discussion and to restrict the agreement to the regulation of the traffic in other wares, did not meet with the favor of the Russian Government. On the contrary, the latter, in November, 1891, proposed an agreement upon the principle that Germany should grant to Russia customs reductions for grain, wood, eggs, butter, fowl and wild meat (not living), horses, and hogs; furthermore, bind itself to the existing duties on petroleum and caviar and to duty exemption for flax, hemp, tow, unwashed wool, hogs' bristles, skins and leather (unworked), down and feathers, living fowls and wild animals, bran, and, finally, agree not to issue cattle-importation prohibitions. As a recompense for these concessions, Russia agreed not to alter its existing customs tariff for a limited number of articles to be suggested by Germany. It was hereby remarked that on the Russian side customs reductions, as well in general as in particular, for the articles of the metal, textile, and chemical industries, for sugar and hops, as well as the abolition of the differential duties existing on the German-Russian frontier for coal, raw iron, and cotton, could not be considered.

Germany replied that a proposition, in accordance with which Russia demanded for four-fifths of its entire exportation to Germany customs reductions or a binding of the German tariff having as a result an annual customs loss of about 25,000,000 marks, while, on the other hand, for the three times smaller German exportation to Russia no facilitations, but only a binding of the Russian tariff, which is already to a great extent prohibitive, was offered, could in no way serve as a satisfactory basis of agreement. Attention was thereby called both to the opposition of German agriculture to a reduction of the protective tariff against the cheap Russian production and to the fact that statistics show that, while the repeated raisings of the Russian tariff have had a most injurious effect upon German exportations to Russia, the raisings of the German tariff in 1879, 1885, and 1887 have not hindered the development of Russia's export trade with Germany. At the same time no doubt was left on the point that Germany, as a recompense for its conventional tariff, in addition to facilitations of frontier traffic and customs formalities, as well as the removal of differential customs rates, etc., must demand a considerable reduction of the Russian tariff, especially in the following categories: Metal wares, instruments, machines and vehicles, chemicals and dyestuffs, textile wares, ceramic articles, paper, and agricultural products.

In reply, in July, 1892—after Germany's commercial treaties with Austria-Hungary, etc., had gone into effect—the Imperial Russian Government expressed the wish, before making any statement in regard to the possibility of reducing the existing Russian customs tariff, to be precisely informed in regard to Germany's demand in order to weigh the sacrifice asked of it. For this purpose it desired to be supplied with a detailed list of those articles for which Germany would demand customs reductions, the same being arranged according to the classification of the Russian tariff, with a statement of the customs reduction desired for each article separately, together with a detailed statement of the frontier facilitations asked for by Germany. The German Government at once agreed to prepare the desired lists, but at the same time declared that it must insist upon, in addition to the reduction of the Russian tariff, the abolition of the differential treatment of wares (raw iron, cotton, and coal) imported across the German-Russian frontier, as compared with importations through the Russian Baltic ports, as well as the granting of full most-favored-nation rights also for Finland, as preliminaries to the closing of an agreement.

By careful deliberation and after hearing experts from agricultural, industrial, and commercial circles, the German proposals were prepared and delivered in March, 1893, to the

Russian Government, which, meanwhile (in November, 1892) had declared its willingness to remove the differential treatment of wares imported by land across the German-Russian frontier, as compared with the Russian Baltic ports, and to grant or consider the granting of full most-favored-nation rights.

The principle upon which these proposals was based was that if Germany makes concessions to the Russian export trade by granting it the advantages of its conventional tariff, it is on its part entitled to demand from Russia, as from other states, the reduction of its customs tariff to such an extent as to again render possible a paying exportation of German products to Russia. It was not meant to ask the Russian Government to renounce the system of protecting national labor, but the idea was that Russia can count upon selling its products to us only when it is willing to open its markets to German products. In choosing the articles to be placed on the lists it was borne in mind that when Russia has once entered upon a course of treaty politics we will, as a most-favored nation, also gain indirect advantages for such articles as other states are principally interested in.

By the Russian Government, in important points, these proposals have not been accepted. The repeated Russian request for the adoption of a cattle-disease agreement was then dropped, and, on the other hand, an agreement concerning the Finnish customs tariff, on account of the contemplated introduction into Finland of the higher general Russian customs tariff, as well as many requested reductions of the Russian tariff, were declined; for the rest only moderate reductions were consented to. Instead, insignificant customs reductions were offered for certain articles not mentioned by the German Government. Thereupon the Russian Government proposed the immediate opening of committee negotiations, and added to this, at the middle of this month, the wish for the effecting of a temporary arrangement granting the advantages of the German conventional tariff to Russia provisionally until the end of this year, Germany being permitted in return to enjoy the tariff concessions already given to France.

The German Government accepted the proposal to enter into committee negotiations, and also expressed its willingness during the course of the negotiations to revise some of the German demands, but stated that in general it must maintain its demands. At the same time it asked if, in case of and from the time of the introduction of the higher Russian customs tariff in Finland, compensation to the German trade thus injured could not be made in the general Russian tariff.

The proposed provisional arrangement was rejected by the German Government on the ground that the consent of Parliament would be necessary, which, in the present condition of parliamentary business, could not be obtained, and that furthermore the customs reductions allowed to France are too unimportant to serve even provisionally as an equivalent for the concession of the enjoyment of the use of the German conventional tariff.

The Russian Government thereupon placed in prospect a further approach to the German proposals and also agreed to continue the committee negotiations, but stated that for technical tariff reasons it felt compelled from the 1st of August, 1893, to enforce the maximum tariff against countries which do not treat Russia as a most-favored nation.

By the further raising of the high Russian duties, especially against Germany, caused by the Russian maximum tariff, the further exportation of German products, as well as the German commission trade in foreign articles to Russia, would be very greatly obstructed and in many cases stopped. Accordingly, it seems unavoidable, so soon as the Russian maximum tariff is put into operation and until a better arrangement in the reciprocal commercial relations of the two countries is restored, likewise from the German side to impose upon Russian importations, so far as the latter are dutiable, the additional duties provided for in section 6 of the customs tariff law so long as the Russian maximum tariff remains in force against Germany.

According to the statistics of the German Empire in the year 1891 the exchange of wares of the German customs territory with Russia in special trade was as follows: Imports from Russia, 578,701,000 marks; exports to Russia, 145,336,000 marks.

Of the Russian importation into Germany about 400,000,000 marks' worth was dutiable. Thereunder the most important articles were :

Articles.	German im- portations from Russia.	Total Ger- man im- portations from all countries.
	<i>Marks.</i>	<i>Marks.</i>
Wheat.....	91,000,000	163,000,000
Rye.....	99,000,000	137,000,000
Oats.....	11,700,000	13,800,000
Buckwheat.....	2,600,000	.....
Leguminous fruits.....	9,000,000	.....
Millet.....	1,000,000	.....
Barley.....	37,500,000	104,000,000
Rape seed.....	8,500,000	25,600,000
Maize and dari.....	12,200,000	51,700,000
Wood and wooden wares.....	60,000,000	194,000,000
Caoutchouc wares.....	1,300,000	4,700,000
Butter.....	3,800,000	9,000,000
Meat, slaughtered.....	2,400,000	16,000,000
Caviar.....	1,700,000	.....
Petroleum.....	4,300,000	65,300,000
Mineral smear oils.....	4,300,000	10,300,000
Eggs.....	20,800,000	56,000,000
Horses.....	15,800,000	73,000,000
Hogs.....	5,600,000	71,900,000

The foregoing figures show the interest of the Russian people in keeping open the German market. On the other hand, the experience which we gained while the Russian grain-export prohibitions of 1891-'92 were in force teach that for the covering of its demand for imported breadstuffs Germany is not dependent on [Russian] production; that even in an unusually unfavorable crop year the needed amount can be covered in the world's markets without the aid of Russian corn.

For these reasons the accompanying bill has been drafted.

The additional duty applies to the principal Russian export articles.

As the Russian measures are restricted to Russia, exclusive of Finland, it appears proper to limit in the same way the German retaliatory measures.

The height of the additional duties is, in view of the low rates of the German tariff as compared with those of the Russian tariff and in the interest of the effectiveness of the measures, fixed at 50 per cent of the regular tariff rates.

THE GERMAN TARIFF ON RUSSIAN PRODUCTS.*

[From the Reichsanzeiger of July 31, 1893.—Translation.]

SECTION I. The wares mentioned below, so far as they come from Russia, with exception of Finland, are subject until further notice to the following customs rates for each 100 kilograms, piece or cubic meter:

	<i>Marks.</i>
(1) Wheat.....	7.50
(2) Rye.....	7.50
(3) Oats.....	6.09
(4) Buckwheat.....	3.00
(5) Legumes.....	3.00

* Went into effect on August 1. Transmitted by the consul-general on August 3.

	Marks.
(6) Raw millet.....	1.50
(7) Barley.....	3.35
(8) Rape seed, poppies, and other oil fruits not otherwise provided for, with exception of sesame and peanuts.....	3.00
(9) Maize and dari.....	3.00
(10) Malt (malted barley and malted oats).....	6.00
(11) Anise, coriander, fennel, and caraway.....	4.50
(12) Quill pens (drawn), bed feathers cleaned and prepared.....	9.00
(13) Wood bark and tan.....	.75
(14) Building and useful wood:	
(a) Raw or worked or marked with the ax or saw only in the cross direction, with or without bark; oak staves.....	.30
1 cubic meter.....	1.80
(b) Split lengthwise or worked or reduced in size in a way other than allowed by forest rights (<i>Bewaldrachtung</i>); barrel staves which do not fall under <i>a</i> ; not barked basket willows and hoop material; hubs, felloes, and spokes.....	.60
1 cubic meter.....	3.60
(c) Sawed lengthwise; unplanned plank; sawed borders and other sawed and cut wares.....	1.50
1 cubic meter.....	9.00
(15) Hops (gross).....	30.00
(16) Fine wares of soft caoutchouc, lacquered, dyed, printed, or bearing pressed designs; all these also in connection with other materials, so far as they do not thereby fall under No. 20f of the tariff.....	90.00
(17) Wares, wholly or partially finished from precious metals.....	900.00
(18) Yarn of flax or other vegetable spinning stuffs, with exception of cotton, undyed, unprinted, unbleached, up to No. 8 English.....	7.50
(19) Rope wares of flax or other vegetable spinning stuffs, with exception of cotton:	
(a) Ropes, cables, cords, also bleached or tarred.....	15.00
(b) All sorts, with exception of those mentioned under <i>a</i>	36.00
(20) Linen, ticking, undyed, unprinted, unbleached, up to 40 threads in the warp and woof together in a square surface of 4 square centimeters.....	18.00
(21) Butter (also artificial).....	30.00
(22) Meat, butchered, fresh and prepared.....	30.00
(23) Fish, salt (with exception of herring), packed in casks, dried, smoked, roasted, and cooked.....	4.50
(24) Fowl, wild animals of all sorts, not living.....	45.00
(25) Caviar and caviar surrogates.....	225.00
(26) Cheese of all sorts.....	30.00
(27) Fruit and berries, dried, baked, pulverized, or merely preserved, so far as they are not covered by other tariff numbers; dried nuts.....	6.00
(28) Mill products from grain and leguminous fruits, namely, crushed or shelled corn, peeled barley, groats, grits, flour; ordinary baked wares.....	15.75
(29) Tobacco leaves (unworked) and stems.....	127.50
(30) Cigarettes.....	405.00
(31) Tea.....	150.00
(32) Oil acids.....	6.00
(33) Lard from hogs and geese, as well as other lardy fats, such as oleomargarine, spare fat (mixture of tallowy fats with oil), beef marrow.....	15.00
(34) Tallow of cattle and sheep, bone fat and other animal fat not otherwise provided for.....	3.00

	Marks.
(35) Finished (not covered) sheepskins, the same whitened and dyed, unlined Angora or sheep hides, unlined covers, fur linings and trimmings.....	9.00
(36) Petroleum and other mineral oils not otherwise provided for, raw and refined, except mineral smear oils.....	9.00
(37) Mineral smear oils.....	15.00
(38) Rough mats and foot mats of bast, straw, rush, grass, roots, sedge, and the like, ordinary, dyed or undyed.....	4.50
(39) Eggs of fowl.....	4.50
(40) Horses.....each...	30.00
(41) Hogs.....each...	9.00
(42) Rough, unprinted felts of wool, inclusive of animal hair not otherwise provided for; also in connection with cotton, linen, or metal threads.....	4.50

SEC. 2. The provisions of section 1 do not apply to such wares as shall have crossed the Russian frontier prior to the day of the publication of this order.

SEC. 3. This order goes into force immediately.

PUBLIC NOTICE.

I. For the enforcement of the imperial order of July 29, instant, in regard to the collection of additional duty for wares coming from Russia, the federal council has decided as follows:

The customs rates of the existing general customs tariff or the customs rates of treaty tariffs apply to the wares mentioned below only so far as these wares are satisfactorily proved to come from countries other than Russia, exclusive of Finland:

- (1) Wheat.
- (2) Rye.
- (3) Oats.
- (4) Buckwheat.
- (5) Legumes.
- (6) Raw millet.
- (7) Barley.
- (8) Rape seed, poppies, and other oil fruits not otherwise provided for, with exception of sesame and peanuts.
- (9) Maize and dari.
- (10) Malt (malted barley and malted oats).
- (11) Anise, coriander, fennel, and caraway.
- (12) Quill pens (drawn), bed feathers cleaned and prepared.
- (13) Wood bark and tan.
- (14) Building and useful wood.
 - (a) Raw or worked in the cross direction with the ax or saw, or marked, with or without bark; oak barrel staves.
 - (b) Split lengthwise or worked or reduced in size in a way otherwise than allowed by forests rights (*Bewaldrachtung*), barrel staves which do not fall under a, not barked basket willows and hoop material, hubs, felloes, and spokes.
 - (c) Sawed lengthwise; unplanned plank; sawed borders and other sawed and cut wares.
- (15) Hops.
- (16) Fine wares of soft caoutchouc, lacquered, dyed, printed, or bearing pressed designs; these also in connection with other materials so far as they do not thereby fall under No. 20 of the tariff.
- (17) Wares wholly or partially finished from precious metals.
- (18) Yarn of flax or other vegetable spinning stuffs, with exception of cotton, undyed, unprinted, unbleached, up to No. 8 English.

- (19) Rope wares of flax or other vegetable spinning stuffs, with exception of cotton.
 - (a) Rope, cables, cords, also bleached or tarred.
 - (b) All sorts, with exception of those mentioned under a.
- (20) Linen, ticking, undyed, unprinted, unbleached, up to 40 threads in the warp and woof together in a square surface of 4 square centimeters.
- (21) Butter (also artificial).
- (22) Meat, slaughtered, fresh and prepared.
- (23) Fish, salted (with exception of herring), packed in casks; dried, smoked, roasted, and cooked.
- (24) Fowl, wild animals of all sorts, not living.
- (25) Caviar and caviar surrogates.
- (26) Cheese of all sorts.
- (27) Fruit and berries, dried, baked, pulverized, or merely preserved, so far as they are not covered by other tariff numbers; dried nuts.
- (28) Mill products from grain and leguminous fruits, namely, crushed or shelled corn, peeled barley, groats, grits, flour, ordinary baked wares.
- (29) Tobacco leaves (unworked) and stems.
- (30) Cigarettes.
- (31) Tea.
- (32) Oil acids.
- (33) Lard from hogs and geese, as well as other lardy fats, such as oleomargarine, spare fat (mixture of tallowy fats with oil), beef marrow.
- (34) Tallow of cattle and sheep, bone fat, and other animal fat not otherwise provided for.
- (35) Finished (not covered) sheepskins (furs), the same whitened and dyed, unlined Angora or sheep hides, unlined covers for linings and trimmings.
- (36) Petroleum (earth oil) and other mineral oils not otherwise provided for, raw and refined, except mineral smear oils.
- (37) Mineral smear oils.
- (38) Rough mats and foot mats of bast, straw, rush, grass, roots, sedge, and the like, ordinary, dyed or undyed.
- (39) Eggs of fowl.
- (40) Horses.
- (41) Hogs.
- (42) Rough, unprinted felts of wool, inclusive of animal hair not otherwise provided for, also in connection with cotton, linen, or metal thread.

II. This proof for wheat, rye, oats, legumes, barley, and maize is to be supplied in accordance with the provisions of paragraphs 2 to 6, inclusive, of the regulations concerning the proof of origin of wares imported from most-favored countries dated January 30, 1892 (Central Journal for the German Empire, p. 71), in consular certificates of origin, and, in other cases, in official attests of the country of origin (accompanied by authenticated translations thereof) or in some other manner (by presenting ships' papers, invoices, original bills of lading, mercantile correspondence, etc.).

The supplying of this proof is not required when the wares in question accompany travelers as part of their luggage.

III. In cases where there is no doubt in regard to the origin of the before-described wares from countries other than Russia, exclusive of Finland, with the consent of the chief officials of the office the requirement of special proof of origin may be waived.

IV. The provisions under paragraphs 11 and 12 of the regulations of January 30, 1892 (Central Journal for the German Empire, p. 71), relative to proofs of origin for wares imported from most-favored countries, find here also application.

V. To wares of Russian origin within the German frontier at the time of the publication of the order of July 29, 1893, in public stores or private warehouses under or not under official control or registered in a customs account, the rates of the general customs tariff apply.

Furthermore, the rates of the general tariff apply to wares which have crossed the Russian frontier before July 31, 1893, only when this fact is credibly proven and, before October 31, 1893, the duty on said wares is paid, or customs entry is made on accompanying certificate (form 2) or when application is made before said date for the registry of the wares on private-credit account.

VI. For the following wares, for which, in consequence of the additional duty, the duty rate exceeds 6 marks per 100 kilograms, in accordance with section 2 of the customs tariff law, the following tare rates are temporarily fixed:

- (1) Wheat in sacks, 1 per cent.
- (2) Rye in sacks, 1 per cent.
- (3) Quill pens, drawn, in cases, 20 per cent; bed feathers, cleaned and prepared, in sacks, 1 per cent.
- (4) Yarn of flax or other vegetable spin stuffs, with exception of cotton, undyed, unprinted, unbleached, up to No. 8 English, in cases, 13 per cent; in bales, 2 per cent.
- (5) Finished (not covered) sheepskins (furs), the same whitened and dyed, not lined Angora and sheep hides, unlined covers, fur linings and trimmings, in cases, 20 per cent; in casks, 16 per cent; in bales, 6 per cent.

The importation of hay and straw from Russia into Germany has been prohibited from the 25th instant until further notice.

It is alleged, as a reason for this step, that the import trade in these products may bring with it the cattle disease and other epidemics from the infected districts of Russia.

These products will be admitted in cases where it can be shown that they come from noninfected districts in Russia.

W. H. EDWARDS,
Consul-General.

BERLIN, *August 21, 1893.*

Germany and Russia having failed to come to an understanding on the question of the tariff, the new rating between the two countries will begin on August 1, 1893. Russia applies its maximum tariff against Germany, which is a discriminating duty of from 20 to 30 per cent on all imports from Germany, while Germany in return raises the duty on imports from Russia into Germany 50 per cent.

In this connection it will be interesting to study the relation of the commerce between these two countries. The statistics show that Germany sends manufactures exclusively to Russia, which consisted in 1891 of the following articles: Woolen yarns and woolen cloths, aniline colors, lead and zinc white; raw, malleable, and cast iron; steel rails, needles, pianos, astronomical and other instruments, machinery, aluminium, nickel and nickel ware, clocks, glove and other leather, etc. The total value of the exports from Germany to Russia in 1891 amounted to \$34,589,970. A discriminating duty of 30 per cent on these articles will, it is said, render it impossible for Germany to continue her exports to Russia.

The value of the imports into Germany from Russia is considerably greater than that of the exports from Germany to Russia, and amounted in 1891 to \$137,800,838, against \$34,589,970 from Germany to Russia for the same year.

The imports from Russia into Germany consist almost exclusively of agricultural products, as will be seen from the following list for 1891:

Articles.	Value.	Value of total imports into Germany from all countries.
Wheat.....	\$21,658,000	\$38,794,000
Rye.....	23,562,000	32,606,000
Oats.....	2,784,600	3,284,400
Buckwheat.....	618,800	.....
Legumes.....	2,142,000	.....
Barley.....	8,925,000	24,752,000
Rape seed.....	2,023,000	6,092,800
Maize.....	2,903,600	12,304,600
Wood and wood ware.....	14,280,000	46,172,000
India-rubber goods.....	309,400	1,118,600
Butter.....	904,400	2,142,000
Meat.....	571,200	3,808,000
Caviar.....	404,600	.....
Petroleum.....	1,023,400	15,541,400
Lubricating mineral oil.....	1,023,400	2,451,400
Eggs and chickens.....	4,950,400	13,328,000
Horses.....	3,760,400	17,374,000
Hogs.....	1,332,800	17,112,200

Since the beginning of 1892 the discriminating duty on wheat and rye from Russia into Germany had been 1.50 marks (30.7 cents) per 100 kilograms (220 pounds). The discriminating duty against Russia is now raised to 4 marks (95.2 cents), the total duty being 7.50 marks per 100 kilograms (\$1.78½ per 220 pounds) from Russia and 3.50 marks (83.3 cents) for the most-favored nations. The above figures of the imports from Russia in 1891 represent the values when there was no discriminating duty against Russia. If we examine the figures of the grain imports from Russia in 1892, we notice a great falling off from that country to Germany. The total in quantity of wheat imported into Germany from Russia in 1892 was only 257,299 tons, against 515,587 tons in the preceding year. The deficiency was supplied by other countries, notably the United States and the Donau countries. For instance, the wheat imported into Germany from the United States in 1891 amounted to 144,678 tons, against 630,213 tons in 1892, or an increase of 585,535 tons over the year 1891. For the first five months of the current year the import from Russia amounted to only 6,033 tons, against 126,369 tons for the same period from the United States.

In a former report I said that the staple food of Germany was black bread (rye), and it was from Russia that she was getting her deficiency supply of this cereal. In 1891 Russia sent to Germany 618,777 tons of rye, and in 1892 only 123,374 tons. The United States sent to Germany 64,222 tons

of rye in 1891 and 136,129 tons in 1892. Thus a great increase occurred in the imports of wheat and rye into Germany from the United States, and a falling off in the imports from Russia. What effect the increased duty on the part of Germany against Russia will have in still increasing the imports from the United States remains to be seen.

The tariff, as increased, on articles coming from Russia into Germany is as follows :

Articles.	Duty per 100 kilo- grams.	Articles.	Duty per 100 kilo- grams.
	<i>Marks.</i>		<i>Marks.</i>
Wheat.....	7.50	Butter	30.00
Rye	7.50	Meat.....	30.00
Oats.....	6.00	Fish, with the exception of herring.....	4.50
Buckwheat.....	3.00	Game, wild.....	45.00
Barley.....	3.35	Caviar.....	225.00
Maize.....	3.00	Cheese.....	30.00
Rape seed, poppy, and all other vegetable oils not mentioned.....	3.00	Fruit.....	6.00
Malt.....	6.00	Meal and flour.....	15.75
Writing pens and bed feathers.....	9.00	Tobacco leaves and stems.....	127.50
Tan bark.....	.75	Cigarettes.....	405.00
Building wood and oak staves.....	.30	Tea.....	150.00
Hops.....	30.00	Oleic acid.....	6.00
Fine rubber goods.....	90.00	Fat.....	15.00
Yarns, with the exception of cotton, up to No. 8 English.....	7.50	Tallow.....	3.00
Cord and rope.....	15.00	Fur skins, sheep.....	9.00
All other kinds of cord goods.....	36.00	Petroleum and other mineral oils.....	9.00
Linen, double and treble.....	18.00	Mineral lubricating oil.....	15.00
		Horses.....	30.00
		Hogs.....	9.00

WM. D. WAMER,
Consul.

COLOGNE, *July 31, 1893.*

Germany just now is engaged in a most interesting tariff contest with Russia.

Hitherto hundreds of tons of grain from foreign fields have made up the deficiencies of German harvests. From no country, except our own, came so much as from Russia. Last year Germany bought 1,292,213 tons of grain. Of this amount Russia furnished 257,339 tons of wheat, 123,387 tons of rye, 7,964 tons of oats, and 177,075 tons of barley; and the United States supplied 630,213 tons of wheat, 136,129 tons of rye, and 10,293 tons of barley.

It is well known that American cereals, especially our hard ones, are looked upon favorably by German millers and bakers. Persons who should know say that Germany was better off selling even her own grain, grown on her Silesian and Brandenburg wheat fields, to England and replacing it by wheat bought in the United States. Her own grain, softer and more glut-

nous than ours, produces a much inferior bread than does a flour made from a mixture of German and American wheat. Now that Russia has practically closed her gates to German imports, hundreds of thousands of tons of wheat, rye, oats, and barley, formerly supplied annually by Muscovy, must be bought elsewhere. To the United States, with her enormous supply of grain of excellent qualities—just those most desired by the bakers and millers—the German public must turn.

Deeply as such a contest is to be deplored, it will not be without its compensations if it turns continental Europe more completely toward the wheat fields of our own country—the world's inexhaustible storehouse of cereals suited to every human need.

I rejoice to be able to send a table of figures which tend to show what I have urged in the matter of millers and bakers turning to us, and which show that our business men are not slow to grasp the situation. The table gives the imports of grain (in tons) into Germany during the first six months of this year and whence it came.

Country.	Wheat.	Rye.	Barley.	Oats.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Russia.....	8,795	22,161	69,444	961
United States.....	152,448	10,559	579	1,491
Roumania.....	70,757	21,897	69,744	13,322
Argentine Republic.....	60,009			
Austria-Hungary.....	11,202	121	133,438	24,021
Bulgaria.....	7,465	14,879	7,166	59
Servia.....	4,542	2,177	378	
Turkey.....	2,726	13,425	1,010	4,175
Chile.....	2,049			
Belgium.....	1,466	1,821	255	
British North America.....	1,316	51		
British East Indies.....	1,264			
France.....		3,283	277	

Russia's export of wheat compared with last year is very small—hardly worth mentioning.

So interesting is this problem to the Germans that every morning and evening paper has something to say relative thereto.

The following tables, from the daily press, are valuable, the first showing by actual figures how bitter the tariff war is and the latter through what countries Russian grain might pass free to avoid the maximum tariff on grain coming from Russia direct. The tax on goods going into Russia was already over 100 per cent on several articles. This will be seen in the first column of figures under "normal tariff."

German tariffs.

Articles.	Normal tariff.	Maximum tariff.	Present tariff.
Potato meal and starch.....			
Dextrine.....	106	138	208
Hops.....	79	103	154
Frames and laths.....	74	74	111
Cement.....	59	77	116
Faience wares.....	56	67	101
Majolica.....	69	90	135
Copper colors.....	105	136	205
Hoop iron.....	56	74	111
Sheet iron.....	95	114	171
Figured, fashioned iron.....	88	106	159
Fine copper wares.....	131	158	237
Rough cast-iron wares.....	97	126	190
Finished cast-iron wares.....	93	111	167
Iron pipes.....	134	161	242
Tinware.....	129	168	252
Ironwares.....	66	85	128
Wire goods of various kinds.....	152 to 305	198 to 396	297 to 595
Writing paper.....	324	422	633
Woven woollens.....	214	278	418
Unfinished cottons.....	130 to 163	169 to 213	254 to 318
Printed cottons.....	111	144	216
	140	182	274

The following table shows the tax on imported grain in various European countries. The tax or toll is put down in pfennigs (the smallest German coin), equal to about one-fourth of 1 cent.

Country.	Wheat.	Rye.	Barley.	Oats.
Belgium.....	Free.	Free.	Free.	Free.
Denmark.....	Free.	Free.	Free.	Free.
England.....	Free.	Free.	Free.	Free.
France.....				
Italy.....	400	240	120	Free till 1894
Holland.....	400	400	92	160
Norway.....	Free.	Free.	Free.	Free.
Austria-Hungary.....	22	22	22	Free.
Roumania.....	300	300	150	150
Sweden.....	Free.	Free.	Free.	Free.
Switzerland.....	250	250	250	100
Servia.....	24	24	24	24
Spain.....	80	80	80	80
	336	256	256	256

J. C. MONAGHAN,

Consul.

CHEMNITZ, August 3, 1893.

Most nations of the Continent are, owing to the tendency of high tariff protection, at war with each other, speaking from a commercial point of view. Hardly has a treaty of commerce, after long and tedious negotiations, been effected, when it is found inadequate for the purpose intended; higher

duties are asked for by both sides and new treaties are demanded. Thus negotiations in that direction between France and Italy were broken off completely a few months ago, leaving commercial matters between these two countries in a very irritable state.

The Austro-Hungarian Empire has a treaty with Germany, but this year both of the contracting parties are dissatisfied with its workings. On the one side it is the industrial interest that asks from the Austrian Government higher duties on German imports, and on the other side it is the agricultural interest that demands more protection.

Austria-Hungary is now trying to conclude a treaty with Russia which should extend to her the same privileges that favored nations enjoy, that is, the low rate of tariff. Though the Austrian Government is confident of bringing about this result, it is not certain yet whether Russia will agree, inasmuch as she has just now declared a regular tariff war (*Zollkrieg*) against Germany.

During the present trade negotiations between Russia and Germany, Russia asked that she might have, up to the time that the treaty was to be concluded, the same tariff as that which France enjoys at the hands of Germany. The latter country not acceding to this, Russia ordered that certain goods coming from Germany be taxed from August 1 with the highest tariff.

Russia has three different tariff grades: the low one, or most-favored-nation tariff; the tariff usually in force; and the maximum or highest tariff, to be used as an act of reprisal.

Germany retorted, even before the Russian law went into effect, that if Russia insisted on carrying out this measure, she would be obliged to increase the duties on certain articles coming from Russia to the amount of 50 per cent above the now prevailing rates. This will virtually, for the time being, exclude all Russian grain from the German market.

The total importation of Germany from Russia in 1891 amounted to 578,701,000 marks. Germany exported at the same time into Russia goods amounting to only 145,336,000 marks. Of cereals, such as wheat, rye, barley, and oats, Germany imported from Russia in 1891 300,000,000 marks, equal in our money to \$72,000,000. France not being in a position to export much this year, owing to indifferent crops, and Austria-Hungary never having much of a surplus to export, it will most likely result in American grain supplying the German wants this year.

The Russian Government, on hearing of the additional 50 per cent on their grain, threatens now to raise even the maximum duties on German goods, thus preventing German goods from entering her territory.

What bearing, if any, these conditions will have on the commercial treaty pending between Russia and Austria can not as yet be determined. Very probably it will have no influence.

MAX JUDD,
Consul-General.

VIENNA, *August 3, 1893.*

CANADIAN CANALS.

I call the Department's attention to the inclosed clipping relating to the construction of a canal to connect lakes St. Clair and Erie.

The construction of the proposed canal through Canadian territory, together with the completion of the Sault Ste. Marie Canal on the Canadian side, will furnish a continuous water way from the great lakes to the ocean independent of any water ways under the control of the United States, except by the Erie Canal and the possible exception of the St. Clair Flats Canal, which I assume is controlled by the United States.

Upon investigation, I have learned that when the President issued his proclamation of August 8, 1892, regarding canal tolls the Dominion authorities agreed with the parties having the contract for the Canadian Sault Ste. Marie Canal to pay them \$100,000 additional in consideration of the completion of the canal one year earlier than was provided for in the original contract. The Dominion authorities expect to have the canal completed May 1, 1894.

With the accomplishment of these improvements, it seems the Dominion authorities will be in a position to discriminate against shippers from the great lakes to American ports, and it will be impossible for our Government to impose any restrictions upon shippers to points in Canada beyond our boundary.

The Dominion authorities evidently hope to offer such facilities for shipping grain to Europe by the St. Lawrence route as will enable them to control the great bulk of such shipments made by water.

JOHN B. RILEY,
Consul-General.

OTTAWA, *August 3, 1893.*

[From the Canada Gazette of July 29, 1893.]

Notice is hereby given that application will be made to the Parliament of Canada, at its next session, for an act to incorporate a company to construct, maintain, and operate a canal or ship canal for navigation from some point on Lake St. Clair, in the township of West Tilbury, in the county of Essex, or in the township of East Tilbury or West Dover, in the county of Kent, to some point on Lake Erie between Point Pelee and Rondeau Harbor; to construct and operate all works and structures necessary or proper in connection therewith; to build, acquire, equip, maintain, and operate for hire and dispose of lands, terminals, water lots, harbors, wharves, docks, dry docks, building and repairing yards, piers, breakwaters, and other structures, locks and all works incidental thereto; to construct works for and to produce hydraulic, electric, steam, and other power, and to furnish power, light, or heat from the same, and to propel vessels in said canal by cable or other power, and to lease or otherwise dispose of said works or power; to construct, maintain, and operate a single or double

line of steam or electric railway along or near the side or sides of the said canal, and to construct, maintain, and operate branch lines thereof connecting all or any of the towns and villages in the said counties of Essex and Kent with the said canal; to construct, maintain, and operate telegraph and telephone lines, and electric lines or wires for the purpose of conveying or transmitting light, power, or heat along the said canal, and from and between the same and all or any of the towns and villages in the said counties; to construct, maintain, and operate steam tugs and other craft; with power to acquire by purchase, expropriation, or otherwise lands for the purposes of the company, and to dispose thereof, and to do all other acts incidental or necessary.

W. E. TISDALE,
Solicitor for the Applicants.

Dated at Simcoe, Ont., June 5, 1893.

BRIDGES AT BUDA-PESTH.

I beg to inform the Department, in the interest of our contractors, that there will be a public competition (according to the fourteenth section of the Hungarian law of 1893) for the construction of two bridges across the Danube River at Buda-Pesth—one with a span of 312 meters* and the other of 331 meters. For the plans of these two bridges a public competition is advertised. The competitors can either compete for both bridges or only for one, as they may choose. The plans must be submitted without consideration, and the best will receive a reward or prize of 30,000 crowns† and the second best 20,000 crowns. If the best plan submitted for the Eskuter Bridge (the one that will span the Danube opposite the Blocksberg Heights and near the royal palace) solves the question of making it with one span and perfectly complies with the requirements (as set forth in the detailed memorandum), a further prize of 10,000 crowns will be awarded. The ministry reserves to itself the right of buying the plans of competitors who do not receive a prize for the sum of 5,000 crowns. In case any of the submitted plans receive the order for the construction of the bridge or bridges, the prize or awards for such plan or plans will not be paid.

The plans and letters, each marked with a device, must be lodged at the offices of the Hungarian Ministry of Commerce (No. 3, Lancthidutcza, Buda-Pesth) at the latest on the 31st of January, 1894, and will receive a receipt therefor. Those plans which are received up to that date will be examined by a commission of expert engineers, and on the basis of their report the awards will be given. Within the above term the plans received will be exposed to the public for two weeks.

The awarded and eventually purchased plans will be the property of the Hungarian Government, which can dispose of them at their will.

The technical description of the situation and plans of the bridges, together with longitudinal sections, etc., may be had at the offices of the Hungarian Ministry of Commerce daily between the hours of 10 and 12

* A meter is equal to 39.368 inches.

† The crown equals 80.3 cents.

o'clock and at every Austro-Hungarian consulate-general. The borings for the purpose of defining the character of the soil and foundation are still in progress, and the results giving the sections will be made known at the latest during the month of September at the places above mentioned.

E. P. T. HAMMOND,

Consul.

BUDA-PESTH, *August 11, 1893.*

A NEW DEMAND FOR AMERICAN FLAX.

In a report submitted by me on the 2d instant a list was given of the principal articles hitherto exchanged between Germany and Russia and the serious consequences described as likely to result from the retaliatory tariffs which were adopted and put in force by both countries on the 1st of August. In the list one important article of German import from Russia—raw flax—was omitted, for the reason that as it has been hitherto free of duty when imported into this country the effect of the new order in respect to it was not foreseen. But there prevails now among German flax-spinners a general and serious conviction that the future of their industry demands that Germany shall establish new relations which will emancipate them definitely from all dependence upon Russia as a source of supply, and, remembering the promptness with which American wheat and rye came to the rescue when the Russian supply was suddenly cut off by the edict of 1891, they now turn to the United States for relief from a situation which is constantly becoming more embarrassing and perilous.

Germany imported in 1892 from all countries 60,691 tons of raw flax fiber, which was spun into yarns by thirteen large spinneries located in various parts of the Empire. Of this large import 55,459 tons—about eleven-twelfths of the entire amount—came from Russia, which also exports largely to England and Belgium. Russian statesmen know that the flax-spinners of Germany are dependent upon Russia for the great bulk of their raw material, and, since Germany admits this material free, there is a prospect that Russia, in order to increase her own revenues and incidentally to make Germany feel the full weight of the present disagreement, will soon put an export duty upon raw flax sold to this country, which, if it be imposed, the German consumers of that staple will naturally have to pay. But, whether this anticipated export tax be imposed or not, the German spinners do not wish to be dependent upon Russia, and the present report is intended to embody their inquiry as to the practicability of finding a new source of supply in the United States.

It is known that in our country vast areas of flax are grown for the seed, the fibrous stalk being thrown away and rotted for manure. The question is whether the flaxseed-growers of the United States, when they know that a new and important market for flax fiber stands open and ready in Germany,

will take the trouble to save and prepare it for export. The process is simple and known to most American farmers.*

The market value of the fiber depends mainly upon four qualities, viz, its length, softness, silkiness of texture, and color, different qualities being required for the manufacture of the various grades of yarn. Whether the American fiber is as well adapted to the use of the German spinners as the Russian staple can be decided only by trial. At present Germany imports no raw flax from the United States; the only movement in that article during last year was the export of 10 tons of prepared linen fiber from Germany to New York. Those who are best informed, however, are confident that American flax, if properly cured and prepared, will answer all purposes in this country. There need be no dealing through commission merchants; the principal German spinners wish to buy and import their raw material direct and on their own account.

It is probably now too late to increase through any new demand the amount of fiber that can be saved in our country from the flax crop of the present season, but it would seem to be important that the field should be thoroughly surveyed and the questions of quality, prices, and commercial conditions tested and settled without unnecessary delay. If any American exporter wishes to test through the medium of his own agent, with samples and prices, the salableness of American raw flax in Germany, the road is open and the opportunity ripe. If one or more of such exporters prefer to make the effort with no other outlay than the value and transport of their samples, they can send samples of their standard qualities, with prices and conditions of sale, to Mr. Heinrich Zeiss, No. 6 Liebfrauen Strasse, Frankfort-on-Main, and such samples and conditions will be placed without commission or other charge before the leading linen-spinners of Germany, and opportunities thus secured for direct trade between the exporter and consumer. Mr. Zeiss is neither a spinner nor dealer in raw flax, but is a merchant who deals in linen yarns and other products of the spinners and weavers, so that he is directly interested in seeing those industries emancipated from their present dependence upon Russian material.

FRANK H. MASON,
Consul-General.

FRANKFORT, *August 22, 1893.*

THE SEAL-SKIN INDUSTRY.†

An occasional schooner comes in from the Japan coast. The first was the *May Belle*, on August 6. She had 3,250 skins—1,850 of her own, the remainder belonging to the *Viva*. On the 22d the *Penelope* arrived with 2,271 skins, which were immediately sold to Turner, Beeton & Co. for \$15 per skin; total \$34,265—a comfortable thing for one season's venture. She

* See "The Cultivation of Flax" in No. 154, p. 265.

† Reference is made to the former report of Mr. Myers in No. 156, p. 32.

reports other catches the latter part of June off the Japan coast, as follows: *Carlotta G. Cox*, 2,400; *Vera*, 1,800; *Mary Ellen*, 1,560; *Casco*, 1,400; *Arietas*, 960; *City of San Diego*, 900; *Libbie*, 1,460; *Teresa*, 760; *W. P. Hall*, 760; *W. P. Sayward*, 560.

The crew of the *Penelope* is being paid off here to-day, one of the American hunters receiving over \$1,800. I mention these facts to show why the business of sealing is so alluring and why it is so industriously followed. Very few other callings are so likely to make large returns for small and transient outlays.

Prices of seal skins have improved here since the rulings of the Paris court of arbitration became known. The first large shipment—3,240 skins—was made by Turner, Beeton & Co. on August 8. On the 21st E. B. Marvin & Co. sent 7,700 skins to London. These two shipments are valued at \$160,000. Robert Ward & Co. have also shipped something over 7,000 skins. About 22,000 skins have now gone to market.

The schooners' owners are greatly disgusted with the findings of the Paris court, and are seeking consolation in various suggestions as to what course to pursue or how to evade the restrictions imposed. One suggestion is that they sell out the entire fleet to the home Government, which may then turn it over to the United States on such terms as it can and let sealing henceforth be an American monopoly. They are willing to sell out at cost. Another suggestion is that the fleet shall hereafter make its headquarters at Yokohama, fitting out from there. Others say: "Let us practice spearing and make the best of it." One exasperating point is that no restrictions are made as to the killing of seals on the Pribyloff Islands or in the territorial waters. This, they contend, is especially unfair and unreasonable.

LEVI W. MYERS,

Consul.

VICTORIA, B. C., August 23, 1893.

AMERICAN PRODUCTS IN GHENT.

Aside from cotton and lumber, which are imported direct, nearly all the American products which find their way to Ghent are received at Antwerp, the great distributing point of this part of Europe. Reference to the statistics for the entire country, published by the Belgian Government, shows that the principal articles from the United States in 1891 (latest figures available) were, in order of total valuation, grains, preserved meats, refined petroleum, lard, cotton, flour, oleaginous seeds, raw tobacco, etc., through a list of forty-four categories. A portion of all of these is consumed in this consular district. As there is no system of octroi, it is, of course, impossible to determine the quantity; but I have personally interviewed every local merchant of any importance who advertises or professes

to sell American goods. I give below the result of my census-taking, omitting reference to cotton and lumber, concerning which I have previously reported.*

HARDWARE.

Messrs. Dutry & Colson, extensive dealers in hardware (12 rue des Champs), report that they have a variety of agricultural implements from the United States, including forks, rakes, lawn-mowers, seed drills, presses, plows, and hickory handles; also meat-choppers, locks, stocks and dies, coffin furnishings, and sundry small tools. They say that these goods are obtained from merchants in London, Bremen, Hamburg, Brussels, and, to a small extent, New York; furthermore, that the quality is excellent, but that, the style being different from European manufactures, it is difficult to make a comparison, except in lawn-mowers, which they prefer to the English make on account of their beauty and simplicity, and in hay and manure forks, which have the preference by reason of fine quality, notwithstanding that they are more expensive than the German and French ones.

In reply to my request for suggestions, this firm said :

All American ironmongery articles in current use are made known to the dealers by London and Hamburg houses, who keep sufficient stock to provide at first demand. This method we find very convenient, for, although it is more expensive, it relieves us of the necessity of keeping a heavy stock. A depot well filled with American articles in a large city of Belgium would be profitable to all ironmongers of our country.

Mr. A. Heynssens, hardware dealer (2 rue Haut-Port), says that he is now selling the following articles from the United States: Doorknobs, handles and springs, drawer handles, carpet-sweepers, hatracks, rings, padlocks, feather dusters, forks, oilcloth, meat-choppers, stocks and bits, saws, squares, levels, screw-drivers, presses, whetstones, laundry irons, and lawn-mowers; all of which, he says, are preferred by his customers.

Mr. D. Duviliers, fils (54 Marché du Vendredi), another hardware dealer, says that he would like to enter into relations with American exporters of agricultural and horticultural implements, which articles he now buys exclusively in Germany and England.

A store has recently been opened in Ghent under the name of the "Maison Américaine" (15 Grand Toquet), which makes a specialty of American wares. The venture seems to be a success. At present the principal articles on sale are stoves (Detroit Stove Works, Michigan Stove Company, and Garland Stove Company) and sewing machines (Domestic Sewing Machine Company and Davis Sewing Machine Company). The proprietor says these goods are much more expensive than similar ones of German manufacture. This gentleman is convinced of their eminent superiority in workmanship. A few days ago he received the first American safety bicycle ever seen in this locality. It is greatly admired and is actually cheaper than most of the English makes which now overrun this country. There is a field here

*No. 153, p. 240.

for our safety bicycles supplied with pneumatic tires adapted to the Belgian paving.

The only American company having a depot at Ghent for the sale of goods is the Singer Sewing Machine Company. Many machines are sold on the installment plan.

FOOD PRODUCTS.

Max Lubliner, importer of grain (143 rue des Baguettes), says that he is selling American wheat, corn, oats, rye, flaxseed, and oil cakes; all imported via Antwerp. He expresses the opinion that the establishment of a direct line of steamships between Ghent and the United States would greatly facilitate and increase the trade. In this respect I must repeat that it is not safe for vessels drawing more than 17½ feet to enter the Ghent-Terneuzen Canal.

Mr. F. Larocque, dealer in flour (27 rue du Jambon), informs me that he has the following brands from the United States in stock: "Luxury" (Kehlor, St. Louis), "Clinton" (Carlyle Mills and Grain Company, Carlyle, Ill.), "Saratoga" (Plants Mills, St. Louis), and "Fancy Extra" (Wallace Muller & Co., New York). Interrogated as to his opinion of American flour, he said:

Generally the American brands compete with the Continental, with a difference of 19 to 38 cents per 220 pounds; at present this is not the case. A defect in this flour is the irregularity in the different sacks. The sale would be more constant if the quality was always the same. In the same lot there is often a difference in value of 10 to 19 cents per 220 pounds. In my opinion not enough attention is given to the secondary and ordinary qualities.

It is only just to add that other gentlemen who have had considerable experience with American flour know nothing of any such trouble, but are unanimous in praising its quality. However, I have thought it best to quote Mr. Larocque, because, if the defect which he mentions is not imaginary, it can easily, and should be quickly, corrected.

Referring to the expenses of importation, the same gentleman said:

Dealers residing in the interior are dependent upon the port of Antwerp. The regular steamers which bring the merchandise discharge it upon the service quays, and this involves an inevitable expense of 1 per cent, for the vessels unload upon quays where there are no tracks, thus necessitating a double carrying and carting, amounting to 5 cents per 220 pounds; add to this the cost of surveillance on the quay and we have a total expense in receiving the merchandise of 10 cents per 220 pounds, which is too much. It would be better to import by the port of Ghent, where these expenses are reduced to 3 cents per 220 pounds.

The leading grocery stores keep American canned beef and tongue, salmon, California fruits, tapioca, baking powder, and a few other food products of minor importance.

MISCELLANEOUS ARTICLES ON SALE.

The only American watches sold here are the very cheap nickel varieties. These are admirable considering the prices, but our fine and medium watches should be put in competition with those of Swiss make, which now enjoy a

large sale. Mr. I. Willemyns, the principal dealer (22 rue des Champs), believes that our fine watches are too expensive to compete with the Swiss, but he is laboring under the erroneous idea that there are no medium grades of excellent quality between the most expensive chronometers and the cheapest.

With the exception of small nickel alarm clocks, no American clocks are sold in Ghent. The stores are filled with French gilded and marble clocks, all notoriously unreliable timekeepers in monotonous designs. The artistic products of Connecticut ought to be better known.

American electroplated trays and various novelties are on sale and in demand.

Other articles worthy of mention by reason of their extensive consumption are refined petroleum, lard, smoking tobacco, and cigarettes.

The so-called Habana cigars (mostly made up at Antwerp) sold throughout Belgium are vastly inferior to any domestic cigars which I have ever seen on sale in the United States at half the price. There is certainly an opportunity here for our good grades of cigars. The American leaf tobacco enjoys the preference. The domestic tobacco raised to a considerable extent in West Flanders is very poor in quality.

A leading piano dealer (A. Boone & fils, 19 rue Magelein) advertises "American" pianos. Inquiry developed the fact that he has never had a single one, but that pianos equipped with certain American improvements, notably the solid metal frame and adjuncts, are commonly called "American" pianos. I believe that all classes of our pianos and reed organs can compete with the foreign makes sold in Belgium. As to the organs, the same dealer said that he had some in stock a few years ago, but that his customers objected to them on account of their size and because they were toned on a basis different from other makes.

As in the case of pianos, the "American" repeating rifles which I saw turned out to have been manufactured at Liege.

In some of the small stores, particularly in hardware stores, I saw cheap European imitations of American goods marked as the latter, but which the proprietors admitted were manufactured in Germany or England. I advise our manufacturers to have their names and addresses in the United States marked indelibly in the metal whenever possible, instead of merely employing adhesive labels. If this course was invariably followed, the foreign counterfeits could be instantly detected.

An American dentist in this city (Dr. Edouard Blitz), in response to my inquiry concerning dental supplies from the United States, says:

I do not use any other dental supplies than the American. The peerless manufacturers of whom I purchase have depots in Paris and Berlin, and European dealers are compelled to keep the American products in order to supply the considerable demand. Imitations of the American supplies are manufactured, but, excepting perhaps the porcelain teeth, no European can compete with the American for excellence. The only way in which the European manufacturers can get their products into the market is by selling them very much cheaper. So it is that cheap and very inferior reproductions of the dental engine and the

dental chair meet with some success, particularly as business is dull in Belgium and many dentists give the cheapest articles the preference.

The qualification "American" is everywhere accepted as synonymous with whatever is ingenious, eminently useful, and excellent in workmanship and quality of materials. This fact explains the wholesale appropriation of the name for their products by foreign imitators.

OPPORTUNITIES FOR EXTENDING THE TRADE.

I will briefly cite a few of the countless products of our country which could be profitably introduced here, but which are now unknown.

The iron safe supplied by the Department to this consulate is the pioneer in this locality of the finest safes in the world, not only for utility, but as ornamental pieces of furniture. They can certainly compete with the bulky metallic boxes which are used in this country.

Circulars of carriage manufacturers in the United States are frequently received here. It would be difficult to introduce any except the heavy and strongly built carriages. Buggies, light surreys, phaetons, etc., are entirely out of the question, because of the unending stone paving in town and country. Our carriage manufacturers seeking foreign markets would do well to consult the report issued by the Department on the subject of "Streets and Highways in Foreign Countries." However, I see no reason why, after patient efforts, the leading storekeepers could not be induced to adopt the handsome delivery wagons made in the United States, which are beyond dispute above comparison with others. At present deliveries are made in Ghent by hand or in push carts.

American refrigerators and portable bath tubs with heating apparatus are articles which would find a ready sale if once introduced.

Our bicycles and typewriting machines ought to be able, as soon as their merits are known, to dislodge the English makes, which now enjoy a monopoly.

Our best detective cameras could succeed, but in general European photographic supplies are excellent.

American rubber goods, leather manufactures, saddles, harness, boots, and shoes are practically unknown in Belgium, but from the standpoint of relative merit ought to find a ready market.

The few American sleeping cars recently put in use on the international trains from Ostend to Germany and Switzerland are an indication of the eventual introduction into Europe of the American system, which, I trust, will give a great impetus to our manufacturing interests.

As to live stock, American horses for riding and driving purposes could be imported advantageously. Some have already been introduced as "English" horses through the intervention of a well-known London firm. The Flemish draft horse makes, of course, the importation of anything in that line impossible.

Mr. Louis van der Snickt, editor of *Chasse et Pêche*, the organ of the fish interests of Belgium, published at Brussels, recently requested me to put him in communication with Americans who keep young fish for stocking purposes, with a view to making importations to supply the streams and ponds of this country. He expresses the opinion that trout are the most desirable.

Mr. F. Larocque, above mentioned, in speaking of milling products, said that there is a good opening this year for the importation from the United States of bran, pollards, sharps and middlings, and low grades, all of which articles are regularly imported at Antwerp from La Plata, British India, and Odessa. There will be an especially large consumption of them this year in Belgium and southern Germany. I consider his suggestion important, particularly as it has been indorsed by other importers.

Indications point to extensive importations of American hay this year. Much the same conditions prevail here as in France by reason of the long-continued drought, although the situation has been somewhat relieved by recent rains. At this writing the average price of hay in this district is \$2.70 per 220 pounds. In other parts of the country, particularly in Brabant, it is considerably higher. Mr. A. Brasseur-Decrom, importer in this city, writes as follows on the subject:

Some months ago I received a consignment of hay from a Chicago firm comprising No. 1 Timothy, Iowa Upland, mixed hay, and No. 1 Prairie. The result of this consignment, which arrived just before the winter, was unsatisfactory, because the prices to which my correspondent restricted me were too high at that time. If I had that same consignment to-day, the result would be very different. Coarse grades of hay from natural prairies would be very acceptable here, but we will not buy without guaranties for the quality.

Among other products which I am convinced will eventually come I may mention: California wines, to supplant the unwholesome and adulterated Bordeaux (at least such as is retailed in Ghent); large, luscious oysters from Chesapeake Bay and Long Island Sound, to compete with the inferior little Ostend-English variety sold at extravagant prices; sweet potatoes, cranberries, canned sugar corn, various vegetables, corn meal, and a host of other food products as yet unknown here.

HOW TO INTRODUCE AMERICAN PRODUCTS.

Those of our exporters who have goods susceptible of extensive introduction into Belgium should not attempt to secure trade by correspondence or by depending upon the consul. They should send over competent and trustworthy agents, preferably American citizens, to locate in Brussels or Antwerp, where a central depot of the goods could be established. The agents should personally supervise the introduction of the articles, and, after carefully examining the field and consulting with the consul, could name local agents—Belgians, if necessary—in such cities as Ghent, Liege, Bruges, and Tournai. In many instances neighboring countries could be included in the territory of the same agent.

Familiarity with the French language is very useful here, but to an enterprising American agent ignorance of it is not a great obstacle, for he will be effective if enabled to make personal visits, even although he may speak only English. Moreover, a great many merchants speak, but refuse to correspond in, English. In any case all circulars, price lists, etc., for Belgium should be in French.

The method above described has been pursued by several firms, and in every instance that has come within my observation it has proved satisfactory.

JOHN B. OSBORNE,

Consul.

GHENT, *July 29, 1893.*

WAGES IN THE THURINGIAN FOREST.

The following short item, taken from the German press, with slight alteration, is interesting, as showing the miserable wages paid in the Thuringian Forest to certain kinds of labor.

SLATE PENCILS.

The quarries of Steinach and vicinity, in Meiningen, which are sources of supply of slate pencils for the whole world, have been, for the most part, for two years past under Government management. The fiscal officers of the Government run these quarries and the slate quarries at Lehesten as a purely commercial business and ship about 270,000,000 slate pencils annually. The price of slate pencils has recently risen, and the Meiningen authorities have in consequence concluded to raise the wages of their employes a trifle, with a view to improving their condition somewhat, that is, by paying 10 pfennigs ($2\frac{1}{2}$ cents) more per 1,000 pencils, so that they will earn 15 marks (\$3.57), instead of 13 marks (\$3.09), weekly. This is still too small a compensation, as the wives and children have to aid in making it.

BEADS, ARTIFICIAL EYES, AND PASTEBOARD BOXES.

Other kinds of workmen earn still less in Thuringia; for instance, at Lauscha the most expert bead-makers earn only from 1 to 1.20 marks (23 to 28 cents) per day, working 15 hours per day, with their families aiding them some. Makers of artificial eyes and pasteboard boxes at the same place earn daily 1 to 2 marks (23 to 47 cents). At Igelshieb a bead-maker having no family to help him can earn but 50 pfennigs (12 cents) per day, while one with a family to render aid makes 1 mark (23 cents) per day. At Steinheid the makers of artificial eyes earn about 10 marks (\$2.38) per week. Nevertheless, these people would not exchange places with the slate-pencil makers, because the work of the latter is very taxing, and they have to be in the quarries summer and winter, being thereby forced to carry on double house-keeping as it were and be under greater expenditure.

The raising of the wages of the pencil-makers 10 pfennigs ($2\frac{1}{2}$ cents) per 1,000 will cause an increased outlay to the Meiningen government of 27,000 marks (\$6,425) per year, as 270,000,000 pencils, as said above, are shipped by it annually.

HAND WEAVERS.

Worse off than those in the occupations mentioned above are the hand weavers of Gotha, who can manage to make but 7 marks (\$1.66) per week, laboring fourteen to fifteen hours per day.

MILLSTONES AND PLAYING MARBLES.

Still more unfortunate is the condition of the stonebreakers at Sachsen-dorf, preparing marble stones for the mills. There immense numbers of playing marbles are made, and, as there has been a great scarcity of water there for the past two years, the mills have not been able to turn out by far as many marbles as the stonebreakers have furnished stones, and as a consequence the price per 1,000 of marble stones has fallen to 25 or 26 pfennigs (6 cents), with 10 pfennigs ($2\frac{1}{2}$ cents) off for outlays. So a stonebreaker preparing marble stones, as he can not get more than 30,000 stones ready per week, working sixteen to seventeen hours per day, makes at the highest not over 5 marks (\$1.19) per week, or starving wages under present conditions.

JAMES H. SMITH,

Commercial Agent.

MAYENCE, *August 3, 1893.*

CITY EATING HOUSES.

To minimize begging and to remove the shame that no man feels more than the honest poor of accepting food in charity, cities in Germany have established eating houses where substantial foods are sold very cheap. I have before me the report of such an establishment in Chemnitz for the fiscal year ended June 30, 1893. Not content with the report itself, I visited the place unaccompanied by anyone and found nothing to condemn, but very much to recommend.

The food is substantial. To a hard-working man with an appetite sharpened by exercise the dinner is excellent. The meats, vegetables, etc., are properly cleaned and prepared before they are cooked. Everything is kept clean and smells sweet and wholesome. The people, who look hearty and healthful, gather in large rooms on benches placed by long tables. Besides the dinner, or midday meal, supper is served to those who wish it. Inasmuch as the dinner is for the most part enjoyed by those men whose wives work or by men and women who are far from their homes and by those who prepare their own evening meal, the suppers of the city eating house play a very small part in the annual account. At these suppers, however, one can get pickled herrings with potatoes for $3\frac{1}{2}$ cents each person;

salt herrings and potatoes, 3 cents; potatoes with curds or buttermilk, $2\frac{1}{2}$ cents; warm beer, $2\frac{1}{2}$ cents per cup; different kinds of soup, $2\frac{1}{2}$ cents for three-quarters of a liter (very nearly a quart); coffee, $1\frac{1}{2}$ cents per cup (a little over half a pint); bread, of which there are two kinds—the so-called black or rye bread and wheat bread— $1\frac{1}{4}$ cents and three-fourths of a cent for a portion.

There were sold last year 435,760 dinners. At 33,294 of these bread was bought for $1\frac{1}{4}$ cents a portion. The year's expenditures were 65,367.16 marks (\$15,557.28), the income 73,540.67 marks (\$17,501.68), leaving a balance in favor of the city of 8,173.51 marks (\$1,944.40). There were consumed 17,982 pounds of beef, 4,734 pounds of pork and pickled meats; sausage, 14,716 pounds; bologna sausage, 17,567 pounds; of lard, suet, ham, smoked meats, and corned beef, 7,161 pounds; steaks (beef and veal), $37\frac{1}{2}$ pounds; potatoes, 198,715 pounds; vermicelli, 6,470 pounds; butter, 642 pounds; sugar, 275 pounds; peas, 20,079 pounds; beans, 18,911 pounds; lentils, 18,988 pounds; rice, 7,808 pounds; barley, 6,407 pounds; millet, 7,300 pounds; carrots, 36 bunches; grit meal, 852 pounds; roasted meal, pea meal, and bread crumbs, 6,873 pounds; potato meal, 5,184 pounds; flour (wheat meal), 3,904 pounds; sauerkraut, 2,257 pounds; cabbage, 1,026 heads of average size; turnips and radishes, 220 heads; celery, 2,040 bunches; fruit and cranberries, 2,780 pounds; bread, 23,820 pounds; stale bread for \$18.33; broken bread from the baker shops, 170 pounds; eggs, 4,620; green *salat* (lettuce), 1,590 bunches; cucumbers, large ones, from half a pound each to 2 pounds, 930; spinach, 150 pecks; fresh peas (in pods), 4 bushels; apples, 7 bushels; plums, 2 bushels.

These dinners cost never more than 10 cents. They do away with the death and dyspepsia dealing dinner pail. They blot out the shame of begging. They are nutritious and wholesome. Besides, they are self-supporting.

J. C. MONAGHAN,

Consul.

CHEMNITZ, August 14, 1893.

HAWAIIAN TRADE—1892-'93.

I transmit the printed customs report for the six months just ended (June 30), showing an increase in the sugar product of some 1,300 tons and in value \$1,556,000 as compared with the previous half year.

The advance in the price of sugar has been the chief cause of increased value, as you will observe. The estimates for the year 1893 are placed at an excess of \$2,000,000 over 1892.

H. W. SEVERANCE,

Consul-General.

HONOLULU, July 28, 1893.

[Inclosure.—From the Commercial Advertiser of July 28, 1893.]

THE CUSTOMS REPORT.

In to-day's issue will be found the official statement of the quantities and values of the principal domestic exports of these islands for the quarter and also for the half year ended June 30, 1893. More than half of the products noted show an increase over the previous half year, while that of sugar exported amounts to 26,230,444 pounds. The total increase alone in value of produce exported during the six months foots up \$1,555,926.69. This exhibit is certainly a very flattering one to the industry of the islands, and promises to be augmented by the close of the year to at least \$2,000,000 over the receipts of the preceding year.

Principal domestic exports from the Hawaiian Islands for the quarter ended June 30, 1893, by customs districts.

Articles.	Honolulu.		Kahului.		Hilo.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Sugar.....pounds...	90,112,992	\$3,026,270.34	21,095,343	\$676,784.02	17,350,200	\$601,521.62
Rice.....do.....	1,141,295	43,644.09				
Hides.....pieces...	4,978	12,369.00			136	294.50
Bananas.....bunches...	28,162	28,162.00				
Goatskins.....pieces...	2,218	846.00				
Sheepskins.....do.....	2,660	399.00				
Molasses.....gallons...	25,766	1,819.50				
Betel leaves.....boxes...	15	75.00				
Coffee.....pounds...	15,087	3,399.32	300	84.00		
Watermelons.....pieces...	120	55.00				
Pineapples.....boxes...	1,389	6,869.00				
Awa.....pounds...	4,400	540.00				
Bones and horns.....do.....	11,920	150.00				
Sundry fruits.....boxes...	90	270.00				
Curios.....do.....	26	1,080.00				
Sundries.....		294.41			57	51.50
Taro flour.....pounds...	680	68.00	2,000	164.50		
Total.....		3,126,310.66		677,032.52		601,867.62

Articles.	Mahukona.		Total.	
	Quantity.	Value.	Quantity.	Value.
Sugar.....pounds...	6,713,287	\$205,929.91	135,271,822	\$4,510,505.89
Rice.....do.....			1,141,295	43,644.09
Hides.....pieces...			5,114	12,663.50
Bananas.....bunches...			28,162	28,162.00
Goatskins.....pieces...			2,218	846.00
Sheepskins.....do.....			2,660	399.00
Molasses.....gallons...	8,700	529.00	34,466	2,348.50
Betel leaves.....boxes...			15	75.00
Coffee.....pounds...			15,387	3,483.32
Watermelons.....pieces...			120	55.00
Pineapples.....boxes...				6,869.00
Awa.....pounds...			4,400	540.00
Bones and horns.....do.....			26,398	263.08
Sundry fruits.....boxes...			90	270.00
Curios.....do.....			26	1,080.00
Sundries.....				345.91
Taro flour.....pounds...			2,686	232.50
Total.....		206,458.91		4,611,782.79

Domestic exports from the Hawaiian Islands for first six months of 1893, compared with corresponding period of 1892.

Articles.	1893.	1892.	Increase in quantity.	Decrease in quantity.
Sugar.....pounds.....	\$38,975, 111	\$12,744, 667	26,230, 444	
Rice.....do.....	2,825, 895	4,017, 295		1,191, 400
Hides.....pieces.....	9, 875	12, 307		2, 432
Bananas.....bunches.....	58,959	44,791	14,168	
Wool.....pounds.....	19, 833	105, 210		85, 377
Goatskins.....pieces.....	3, 370	1, 175	2, 195	
Tallow.....pounds.....		792		792
Molasses.....gallons.....	57,942	27,571	30,371	
Betel leaves.....boxes.....	82	102		20
Coffee.....pounds.....	19,250	9,129	10,121	
Sheepskins.....pieces.....	4,385	3,637	748	
Awa.....pounds.....	9,600	3,885	5,715	
Pineapples.....pieces.....	1,389	900	489	
Watermelons.....do.....	120	179		59
Plants and seeds.....packages.....		6		6
Sundry fruits.....cases.....	570	133	437	
Bones and horns.....pounds.....	46,198	15,520	30,678	
Curios.....boxes.....	26	1	25	
Taro flour.....pounds.....	2,680		2,680	
Sundries.....value.....	\$345.91	\$1,070.70		

Articles.	Increase in value.	Decrease in value.
Sugar.....	\$1,537, 446.87	
Rice.....		\$73,514.87
Hides.....		5,030.05
Bananas.....	14,048.00	
Wool.....		15,201.40
Goatskins.....	707.75	
Tallow.....		45.00
Molasses.....	1,693.85	
Betel leaves.....		135.00
Coffee.....	2,305.44	
Sheepskins.....		10.70
Awa.....	614.00	
Pineapples.....	1,158.30	
Watermelons.....		25.00
Plants and seeds.....		50.00
Sundry fruits.....	255.00	
Bones and horns.....	329.58	
Curios.....	1,035.00	
Taro flour.....	232.50	
Sundries.....		724.79

COINAGE AGREEMENT IN SALVADOR.

On the 11th instant the Salvadorean Congress approved a new agreement between the manager of the Central American Mint (limited) and the minister of public works, the essence of which is as follows:

(1) The Central American Mint (limited) shall manufacture 5,000,000 silver dollars in "colones," half colones, and fractional pieces; the first and second being 0.900 fine and the third 0.835.

(2) The manufacture of the above amount of silver dollars shall take place at the rate of 1,000,000 a year, the mint agreeing to procure the foreign silver necessary for the coining of the new money.

(3) The Government shall pay to the mint \$12 in colones for every \$100 in colones and half colones coined and delivered to circulation and \$14 for every \$100 coined in fractional pieces.

(4) The difference between 0.900 of foreign silver dollars and 0.835 of the fractional pieces shall belong to the Government.

(5) The Government shall guaranty the payment of the 12 per cent and 14 per cent mentioned in article 3, depositing in some bank the amount of \$620,000 in bonds redeemable at the rate of \$124,000 yearly in 5 per cent of the importation duties at the custom houses of the Republic.

(6) After the manufacturing of the 5,000,000 dollars the Central American Mint is free to coin national gold or foreign silver on its own account.

(7) The Government agrees to buy from the Central American Mint \$15,000 worth of copper cents which the mint had manufactured for it under a previous contract.

(8) The Batres-Guarracino contract, signed May 4, is declared null.

(9) The Central American Mint agrees to make no claim against the Government for damages which it might have sustained on account of the gold-standard law (September 30, 1892) or others posterior to that one.

(10) Both parties recognize that the mint ought to belong to the Government, and declare that the present contract shall be no obstacle to enter into arrangements relative to the acquisition of the establishment by the Government.

(11) The manufacture of colones during the first three months after the approbation of this contract shall be made in dies dated 1892, as those of this year are not yet ready.

(12) The present contract shall be submitted for approval to Congress in its actual extraordinary sessions and shall be obligatory for both parties if it is approved.

(13) The contract drawn between the Central American Mint and the Government on April 20, 1891, shall continue in full vigor in all that is not modified by the present one.

G. J. DAWSON,
Vice-Consul.

SAN SALVADOR, *July 17, 1893.*

AMERICAN AND RUSSIAN PETROLEUM IN FRANCE.

The following tabular statement, showing the amount of American and Russian mineral oils imported into France during the last four years, was forwarded August 21, 1893, by Mr. Eustis, to be considered in connection with his dispatch of July 3, 1893, informing the Department of the new

petroleum tariff act of France, which was noted in last month's CONSULAR REPORTS:

Importations of petroleum oil from the United States and Russia into France from 1889 to 1892 (special commerce).

Description.	1889.		1890.	
	Quantity.	Value.	Quantity.	Value.
Crude oil :	<i>Kilograms.</i>	<i>Francs.</i>	<i>Kilograms.</i>	<i>Francs.</i>
United States.....	163,888,113	27,860,977	178,347,958	29,427,413
Russia				
Refined oil and essences :				
United States.....	18,052,143	3,431,313	15,231,747	2,666,080
Russia			1,188,012	207,902
Heavy oils :				
United States.....	5,210,213	807,583	10,131,436	1,570,373
Russia	14,403,464	2,232,537	24,931,540	3,864,389

Description.	1891.		1892.*	
	Quantity.	Value.	Quantity.	Value.
Crude oil :	<i>Kilograms.</i>	<i>Francs.</i>	<i>Kilograms.</i>	<i>Francs.</i>
United States.....	179,259,997	26,171,960	194,438,927	28,388,083
Russia				
Refined oil and essences :				
United States.....	11,600,040	2,088,007	18,778,331	3,380,035
Russia	613,134	110,364	72,415,013	7434,702
Heavy oils :				
United States.....	7,408,577	1,481,715	131,476,338	16,295,267
Russia	14,092,212	2,818,342		

* The Department understands that these are temporary figures.

† This amount represents the whole importation from all countries except the United States. The temporary statement for 1892 embraces all these under the heading of "other countries."

‡ All countries. Details as to origin not indicated.

INTERNATIONAL EXHIBITION AT VIENNA.

I wish to call attention to an international exhibition for the nourishment of the masses, etc., which will take place in Vienna next year.

The main points I have taken from an official programme furnished this consulate by the executive committee.

The special attention of our people should be called to group I, where all sorts of canned, smoked, and pickled meats, lard, etc., will be exhibited, and to groups III and VI, where all kinds of dairy products, such as butter and cheese and flour and maize (Indian corn), will be shown. The last-named product is but little used here by the masses, and its high value as human food might be demonstrated by showing in how many ways it can be made palatable.

No. 157—3.

The exhibition will take place in the "Rotunde" (sort of Crystal Palace) and its environs in the Imperial Royal Prater at Vienna. It will open April 20 and close June 10, 1894.

In connection therewith is to be a "sporting exhibition." Persons who wish to exhibit must apply to the executive committee of the association for the Propagation of Agricultural Science (No. 4 Minoritenplatz, I. Vienna) on or before October 31, 1893. Each application must be written in duplicate.

For the allotment of space the following prices are fixed:

In the Rotunde:	Florins.
For 1 square meter of ground, space near a wall, with 3 meters maximum height from the floor.....	20
1 square meter ground, space free (detached) on three sides at least and 3 meters maximum height.....	30
For each additional square meter height or part of it.....	3
1 square meter of wall space alone.....	8
In the open air outside the Rotunde (1 square meter of ground space).....	8

Less than a square meter of space will not be granted. Single exhibitors who require 10 square meters of space at least will be granted 20 per cent discount on the above prices. Such as require more than 20 square meters of space will be allowed 30 per cent discount. Goods to be exhibited will be received by April 19, 1894, at latest.

The following parts of the programme deserve the attention of the United States:

I. NOURISHMENT OF THE MASSES.

GROUP I.

- (1) All sorts of flesh meats prepared from raw meat for the nourishment of the masses.
- (2) All sorts of canned meat for the above purpose.
- (3) Smoked and pickled meat of all kinds, sausages, lard, etc.

GROUP II.

- (1) Game and fowls, raw and prepared.
- (2) Sea and river fish and products thereof.

GROUP III.

- (1) All kinds of milk, fresh and prepared in every way.
- (2) Dairy products—butter, cheese, etc.

GROUP VI.

- (1) Bread of all kinds.
- (2) Flour of all kinds.
- (3) All kinds of dough products, pastry, etc.

GROUP XI.

Ice boxes, utensils, and apparatus for the kitchen and cellars.

2. HOSPITAL SERVICE.

GROUP I.

- (1) Sanitary arrangements for hospitals; campaign service, for instance, the Red Cross and the White Cross.
- (2) Sanitary auxiliary means, hospital carriages, bandages, pocket dispensaries, surgical instruments.
- (3) Hygienic, microscopic, and bacteriological preparations.
- (4) Disinfectants.

GROUP II.

- (1) Bathing room; minerals and vegetables for bathing purposes.
- (2) Apparatus for gymnastic exercises in rooms, ergostates, apparatus for electric induction, etc.

GROUP III.

- (1) Perfumeries, chemicals for purifying the air in closed-up spaces.
- (2) Objects for the toilet.

GROUP IV.

- (1) Means for protection against danger by the elements, as implements for fire companies, life buoys, etc.
- (2) Means for protection against danger in factories, public institutions, etc.
- (3) Apparatus for ventilation and heating.

GROUP V.

- (1) Wearing apparel with regard to their value in respect to sanitary conditions.
- (2) Articles of industry, as above.

3. MEANS OF CONVEYANCE.

GROUP I.

- (1) Models of railroads and ships.
- (2) Locomotives, engines, steam and horse cars, electric and cable roads, freight cars, etc.
- (3) Elevators, cranes, brakes, etc.

GROUP II.

- (1) Carriages, coaches, etc., of all kinds for the conveyance of persons.
- (2) For the conveyance of goods.

GROUP IV.

- (1) Electric institutions of all kinds.
- (2) Apparatus for giving signals.

GROUP V.

- (1) Models and objects for aerial navigation.
- (2) Implements therefor.

GROUP VI.

Drafts, sketches, plans of railroads, tunnels, harbors, bridges, etc.

Prizes will be adjudged by an independent jury and will consist of six grades—prize of honor, diploma of honor, a gold medal, silver medal, bronze medal, and honorable mention,

MAX JUDD,
Consul-General,

VIENNA, *July 3, 1893.*

DRY DOCK IN MALTA.

I inclose a copy of the prospectus of the Malta Britannia Dry Dock and Engineering Works (limited).* There are no dry docks in Malta other than those built and owned and exclusively occupied by the British admiralty and used entirely for the docking of British war ships.

The necessity of such a dock here has been more and more felt during the last ten years. Ships have had to go to neighboring ports—say, to Leghorn, Naples, Messina, and to even more distant ports—to be docked, owing to inadequate facilities here. As Malta is the port in the Mediterranean at which a greater number of vessels call annually than any other, the necessity of dry-docking facilities here is unquestionable. The wonder is that the necessity has not been met long before this. The number of vessels of all nationalities annually entering the port of Malta, as stated by the custom-house authorities, has averaged over 5,000 during the last five years; and, owing to the want of other accommodation, vessels of the larger class which require docking for cleaning, repairing, or surveying have had either to apply to the admiralty for accommodations or proceed to some distant port where it could be had.

The prospectus and the documents that accompany it show that the new enterprise commands the indorsement and approval, and will doubtless secure the financial aid, of the responsible mercantile and shipping community of Malta. It is not doubted by experts in similar enterprises that the projected works will prove a financial success, and it is believed by those most immediately interested and also by the general public that the works will increase the number of ships calling here and that this in turn will improve the general trade of the island, which has both languished in activity and fallen off in volume in late years.

The company is formed, says the prospectus, for the purpose of constructing a dry dock and engineering works in the grand harbor of Valletta, Malta, to be called the "Britannia Dock," on a site for which a concession, together with a contract for a lease for ninety-nine years from the 1st of January, 1890, has been granted by the government of Malta at a nominal rent of \$280 per annum to Mr. P. P. Zammit, engineer of Malta, which concession and lease, with all the privileges attached thereto, will be conveyed to this company.

I am informed that a large amount of the capital required is now being subscribed in England.

From many inquiries that I have made I conclude that this enterprise is to be vigorously pushed to a completion. If completed and put in full working order, it will, whether it pays dividends to its shareholders or not, be of immense value and profit to the island generally and a great conven-

* Filed in the Department.

ience to the owners of ships that pass to and fro in the Mediterranean. I have known during my eleven years' occupancy of this port of at least three American men-of-war that would have docked here had there been sufficient and efficient docking facilities—other than in the docks exclusively controlled and owned by the admiralty authorities. The British admiralty authorities have always shown our war ships every attention and offered them every possible facility for cleaning and repairs in this port, but there are times when their docks are fully occupied by their own ships, and then, in the absence of the usual commercial facilities, the American vessels have gone elsewhere to be docked, etc.

JOHN WORTHINGTON,
Consul.

MALTA, *August 17, 1893.*

GERMANY'S TRADE WITH BRAZIL.

I transmit as of interest a translation from the Hanover Courier treating of Germany's export trade with Brazil.

W. H. EDWARDS,
Consul-General.

BERLIN, *July 23, 1893.*

Concerning the German commercial interests which have been affected by the disquiet in Brazil, the Commercial Archive writes: "The sales are in agricultural implements, instruments, and articles of use, as well as sewing machines. This extension of German manufactures in that part of Brazil is due to the fact that German trade has won as a market and supplied with wares the thickly populated and prosperous Italian settlements. Furthermore, the erection of various not unimportant factories has increased the importation into Brazil of German machinery, while, on the other hand, the growth of the iron foundries of Brazil has injured German trade. For the increase of the German export trade everything possible is done by the numerous German importers there. They are compelled, through their export representatives in Germany, to hunt out the cheapest sources and all such articles as have not heretofore been imported there and which there is a possibility of selling. In view of the new civil war, the advice which has already been often given to German producers—to do their business only through reputable German importers or through their Hamburg representatives—must be repeated most distinctly. The frequently heard objection that the business with Brazil is monopolized by a few Hamburg houses would have a meaning only if the Hamburg exporter were a manufacturer or the agent of one particular manufacturer. This is not the case. The Hamburg houses in question are easy of access. Many manufacturers, especially those delivering for the first time to the market in Porto Alegre, send—in order to introduce themselves well—without any increase of price, better qualities than were ordered. An urgent warning is given against this practice. Under a customs tariff prepared with great expert knowledge and enforced by model officials it is easily possible that, in consequence of a small difference, especially in weight, the better wares are subjected to duty in such a class as to render it impossible for the importer to sell them. Painful exactness should be used in filling orders for this reason. Above all a warning must be given

against sending wares in consignment without previous order. As a rule, the shipper has no idea in regard to the selling quality of his article in the Brazilian market, while this is the principal study of the importer. If now a consignment of probably unsalable wares arrives, the consignee is often not in position to enter them at the custom-house. This means a total loss for the shipper, for when wares which have not been taken from the custom-house are sold at official auction at the expiration of the period fixed by law they are often in such bad condition that they do not bring enough to cover the duty and storing expenses. But even when the consignee accepts the risk of paying the duty he is often compelled to sell the wares at auction, and in this event also severe losses for the shipper are unavoidable. Owing to heavy freights, etc., in most cases the resource of returning the wares is impracticable."

INCREASE IN PRICE OF RUBBER.

Under a late law of this State the rate of export duty on rubber has been changed by making the duty on "medium" the same as on "fine," which is a discrimination of almost 2 per cent in the State's favor, and, in retaliation, the principal exporters here have agreed to raise the difference in price between "medium" and "fine" from 300 reis to 400 reis per kilogram.

I inclose a copy of their resolution, with translation.

JAMES M. AYRES,

Consul.

PARA, *June 30, 1893.*

[Translation.]

Owing to the augmentation of duties on the exportation of medium rubber, the larger exporters of our market have taken the following resolution:

It appearing to the undersigned that there will be vigorously enforced from the 1st of July of this year a law which equalizes the export duties on medium rubber with fine, we have combined together to make, on the 30th of this month and thereafter, a difference of 400 reis between the prices of the qualities referred to. This agreement to remain invalid if, perchance, the law is not enforced with vigor or is revoked.

PUSINELLI PRUSSE & CO.

LA ROCQUE DA COSTA & CO.

RUD ZIETZ.

R. F. SEARS & CO.,

per E. KANTHACK.

DENIS CROUAN & CO.

EDMUND REEKS.

SINGLEHURST BROCKLEHURST & CO.,

per GEO. B.

NORTON & CO.,

per F. GRAUERT.

PARA, *June 29, 1893.*

NOTES.

Mexican Stamp Tax on Fermented Liquors.—Minister Gray has forwarded to the Department a copy of a decree of the Mexican Government requiring maritime and frontier custom-houses to collect upon wines, beers, and other foreign fermented liquors the same stamp dues which have been collected since July 1, 1893, on foreign distilled liquors. This decree went into effect July 15, 1893. This new tax is, according to the Mexican Financier of July 22, p. 425, "15 per cent of and in addition to the regular import duties."

Increase of Austrian Exports to the United States.—Consul-General Judd reports, under date of August 18, 1893, the total value of the declared exports to the United States for the fiscal year 1893 from the consular districts of Austria-Hungary, including agencies, as \$12,653,778, as against \$8,957,109 for the previous year, an increase of \$3,696,668, or 25 per cent. The consul-general says:

The chief articles were: Beet-root sugar, \$2,310,504; glassware, \$1,004,539; beans and lentils, \$886,005; linen goods, \$852,500; porcelain and pottery, \$791,864; fruits (dried, etc.), \$723,184. None of the other articles reached the sum of \$500,000.

The following articles showed an unusually large increase: Beans and lentils, \$823,026.79; fruits (dried, etc.), \$570,515.28; gloves, \$227,000.32; wool, \$187,864.90; porcelain and pottery, \$150,432.82; cotton goods, \$112,296.86.

Tax on Playing Cards in Austria-Hungary.—Under date of August 19, 1893, Consul-General Judd reports that the taxes mentioned in his dispatch of July 25 (No. 156, p. 56) were only those paid in Austria. He inclosed the following table of taxes paid on playing cards in Hungary from the year 1887 to 1892 and the total for each year for the entire Empire:

Year.	Hungary.	Entire Empire.
	<i>Florins.</i>	<i>Florins.</i>
1887.....	109,679	382,241
1888.....	100,978	373,038
1889.....	103,583	383,377
1890.....	102,006	404,720
1891.....	102,546	412,734
1892.....	113,693	.....

International Exhibition of Fruit Culture.—Under date of September 4, 1893, Mr. Webb, United States chargé d'affaires *ad interim* at St. Petersburg, forwarded the following circular:

INTERNATIONAL EXHIBITION OF FRUIT CULTURE ORGANIZED BY THE RUSSIAN SOCIETY OF FRUIT CULTURE AND TO BE HELD AT ST. PETERSBURG IN 1894.

(1) The Society of Fruit Culture is organizing, with the sanction of His Imperial Majesty, an international exhibition to be held at St. Petersburg in the autumn of 1894 with the object of showing the present condition in Russia and other countries of the cultivation of fruit and vegetables, of viniculture, the cultivation of medicinal plants, horticulture, and of the manufacture of their products.

(2) A congress of pomologists will be convened simultaneously with the exhibition.

(3) All persons interested in the progress of horticulture and pomology, both in Russia and other countries, are invited to take part in this international exhibition.

(4) The exhibition will comprise the following sections: (1) Fresh fruit; (2) fresh vegetables; (3) dried fruit and vegetables, preserved or treated by other processes; (4) wine, cider, perry, and other fruit beverages; (5) hops and medical herbs; (6) seeds; (7) fruit trees and bushes; (8) horticultural implements and appliances and technicality of production; (9) literary, scientific, and educational accessories, collections, plans, etc.

(5) Detailed regulations of the exhibition and conditions for competition will be published and distributed toward the end of the year 1893.

(6) Those who may be desirous of taking part in the international exhibition or in the proceedings of the congress are requested to make timely application for further information to the offices of the International Exhibition of Fruit Culture, 1894, at St. Petersburg, Imperial Agricultural Museum, Fontanka, 10.

Consular Reports Transmitted to Other Departments.—The following reports were referred during the month of September to other departments for publication or for proper action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
E. H. Plumacher, Maracaibo...	May 25, 1893	Exploration of petroleum regions, etc.	Smithsonian Institution.
Charles W. Wiley, jr., St. Etienne.	Aug. 19, 1893	Drought in France.....	Department of Agriculture.
Edward Sneegans, Saigon.....	July 15, 1893	Rice report.....	Do.
Do.....	Aug. 12, 1893	.....do.....	Do.
W. H. Edwards, Berlin.....	Aug. 16, 1893	Prices of hay and straw in Germany during July.	Do.
Do.....	Aug. 23, 1893	Translation of Germany's order prohibiting importation of hay and straw from Russia.	Do.
Do.....	Aug. 29, 1893	Grain import of Germany.....	Do.
James H. Smith, Mayence.....	July 25, 1893	Drought in Germany.....	Do.
Do.....	Aug. 30, 1893	Crops of Germany.....	Do.
Wallace S. Jones, Rome.....	Aug. 29, 1893	Barley and wheat crops (1893) of Italy.	Do.
John B. Osborne, Ghent.....	July 29, 1893	Inclosure concerning Belgian crops and prices.	Do.
Do.....	July 29, 1893	Inclosure — a translation of Louis Van der Snickt's letter of July 22, 1893.	Fish Commission.

Errata.—Under date of August 21, 1893, Consul Healey, at Funchal, states that in his report on "Columbus in Madeira" (No. 150, p. 472) a mistake was made in saying that Columbus was married at Porto Santo, while the fact is he was married on the island of Madeira. The consul says that the mistake was made in translating.

Consul Rairden, of Batavia, requests the Department to have the following corrections made in his communication on "Java Petroleum," which was printed in CONSULAR REPORTS No. 153, p. 171: In the ninth line of the fifth paragraph "100,000 liters per month" should read "100,000 cases per month;" in the first line of the last paragraph "Pasverolan" should read "Pasoeroean."

Mr. Pierce, in letter of August 31, 1893, requests that the following errors be corrected: In No. 155, p. 400, in the first line after the first table read "The above tables show," instead of "The above table shows;" in the second table on this page the rate of duty on cheese for 1892 should be half a penny per pound, instead of 1s. 2d. per pound; in the table on page 401 the rate of duty on shooks for 1892 should be 3½d., instead of 1s. 6d., per bundle.

Hawaiian Finance Report for June Quarter, 1893.—On August 31, 1893, Consul-General Severance transmitted the report of the Hawaiian treasury department for the quarter ended June 30, 1893. It shows:

Treasury balance April 1, 1893..... \$70,239.98

RECEIPTS.

Interior department receipts.....	\$59,775.09	
Customs receipts.....	133,860.84	
Fines, penalties, and costs.....	12,126.65	
Revenue stamps.....	5,144.20	
San Francisco consul fees.....	4,359.40	
Chinese passports.....	200.00	
Water receipts.....	5,903.15	
Fish-market receipts.....	1,323.25	
Post-office receipts.....	26,361.79	
Prison receipts.....	1,479.80	
Registry-office receipts.....	2,607.75	
Brands.....	753.00	
Government realizations.....	3,240.86	
Electric-light receipts.....	1,053.05	
Hilo water receipts.....	71.85	
Koloa water receipts.....	100.00	
Internal taxes.....	8,234.25	
		\$266,594.93
Loan act, August 15, 1888.....	22,000.00	
Loan act, September 7, 1892.....	3,300.00	
Loan act, January 11, 1893.....	56,000.00	
Crown-land revenue.....	21,115.87	
		102,415.87
		369,010.80
Total.....		439,250.78

EXPENDITURES.

Section 1:

Civil list (salaries and expenditures).....	\$744.16
Judiciary department.....	26,714.07
Department of foreign affairs.....	14,988.40
Department of finance.....	95,938.40
Attorney-general's department.....	55,867.72
Bureau of public instruction.....	26,831.66
Interior department.....	88,015.61

Section 2:

Volcano road.....	\$1,682.68
Hilo waterworks.....	5.00
New kerosene warehouses.....	79.00
Dredging Honolulu harbor.....	5,050.80
Dredging Honolulu harbor bar.....	65.00
Road damages.....	1,740.36
Purchase of electric-light plant, palace.....	3,916.93
Pay of prison lunas, volcano road.....	745.00
	<hr/>
	13,284.77

Special appropriations—

Roads and bridges, Honolulu.....	13,843.31
Expenses of placing loan of January 11, 1893.....	76.00
General expenses of Provisional Govern- ment.....	37,952.36
	<hr/>
	51,871.67

Sundries—

Hospital tax fund (to special deposit)....	1,581.88
Road tax, 1893 (to special deposit).....	672.00
Road tax, 1892 (to special deposit).....	6,376.00
School tax, 1893 (to special deposit).....	838.00
Treasury-note act (redeemed).....	10,000.00
Hawaiian postal savings bank (with- drawn).....	3,300.00
	<hr/>
	22,767.88

Treasury balance, July 1, 1893.....	<hr/>	\$397,024.34
		42,226.44

Total.....	<hr/>	439,250.78
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TECHNICAL EDUCATION

AND

MANUAL-TRAINING SCHOOLS.

INTRODUCTION.

On February 9 and 10, 1893, the following instruction was addressed to the consuls-general at London, Paris, Rome, St. Gall, and Vienna and to the consuls at Brussels, Rotterdam, and Stockholm:

Application having been made to the Department for information relative to technical educational schools in ———, you are instructed to make a report on that subject for publication in the series of CONSULAR REPORTS.

WILLIAM F. WHARTON,
Assistant Secretary.

The consuls-general at London and Paris failed to report in answer to this instruction. Reports from all the other officers mentioned, supplemented by papers on the subject from St. Petersburg, St. Etienne, and Mayence, are now published.

The Department has always taken a lively interest in this subject, and has from time to time given to the public reports of consuls showing the condition and progress of technical and manual-training schools in foreign countries. Among the many reports hitherto published, the following, which appeared in the monthly series of CONSULAR REPORTS, may be mentioned:

Title.	No.	Page.
Woman's Work at Reutlingen.....	11	427
Industrial Schools of Austria.....	13	420
	23	59
Technical Schools of England.....	39	140
	49	198
Nautical Schools of Italy.....	27	65
Art Schools of Munich.....	34	725
Agricultural Schools of Prussia.....	66	337
Industrial Schools of Reichenberg.....	94	513
Trade and Technical Schools in Germany.....	95	177
Schools of Agriculture in Mexico.....	108	107
Housekeeping Schools in Germany.....	115	661
Industrial School at Pforzheim.....	116	3
Imperial Technical School of Moscow.....	136	161

"Technical Education in Germany" (the Royal Technical High School, of Stuttgart) was published in Commercial Relations for 1879, vol. 2, p. 773.

In 1888 the Department published in a separate pamphlet (of which 4,000 copies were distributed) the valuable report of Mr. J. Schoenhof, consul at Tunstall. This was entitled "Technical Education in Europe." The investigations of Mr. Schoenhof of the French system alone were given in

this publication, which was meant to be the first part of a series unfortunately not completed. The edition of this valuable work has been for some time exhausted. It was not stereotyped at the Government Printing Office. If plates had been made, it would have been reprinted as an appendix to the present publication.

AUSTRIA.

The system of public education throughout Austria is an admirable one. Formerly the ecclesiastical influence in school matters was great ; but after the concordat was formally dissolved in 1868 new laws and regulations, liberal in character, were adopted by the Government for the guidance and conduct of all matters connected with public instruction. In one unbroken course from the elementary school to the high school the continuity of Austrian education is maintained, there being an organized connection between all the schools from the lowest to the highest.

On leaving a primary school in Austria a boy who wishes to receive a technical education will go to the Realschule for a three years' course. At the age of 13 he may enter a technical school for four or eight years, respectively, and there qualify for engineering, manufacturing, or any distinctive branch of technical industry he may see fit. The special privilege of serving only one year in the army is granted to the successful student of the technical schools, as well as to those of the high schools.

The "Gewerbe" schools are the purely technical schools of the country. In these instruction is given in various branches of trade, and especially in such branches as may form a distinct specialty of the district in which they are located. In these schools the pupils are scientifically prepared for their pursuits in life far more effectively than if an apprenticeship had been served in some manufactory or ordinary workshop. Every hour spent in the school is devoted to the acquisition of knowledge under the eyes of a duly recognized master of his art, and no time is given to the gain of profit for a master in his trade. Whatever the art in which the pupil is receiving instruction, whether in metal work, in carving, or in modeling, sculpture, drawing, engineering, architecture, building, joinery, or whatever it may be, nothing is wanting to insure the pupil a full knowledge of the why and the wherefore of what he is doing and the best mode of doing it. The productions of the pupils are not finished in order to be sold, but are regarded as the evidence of the process through which the pupils have passed to become masters of their business in the branch of technical industry they have studied.

On completing their education in these schools, the pupils are never at a loss for employment. Their services, indeed, are often secured before their term expires. Men of business find that they are far better qualified for positions of trust, skill, and capacity than the general order of men obtained in the usual way. In many instances they are the sons of merchants or of

manufacturers, who place them in these schools to qualify them for taking prominent positions in their own houses. No pupil is admitted into the school until he has completed his thirteenth year. He may enter for a term of two years of four half-yearly courses or of four years of eight half-yearly courses. Pupils whose examination proves satisfactory are eligible from any school on the production of the usual certificates. In the artists' department the term is three years; for artisans the full term of four years must be taken. The tuition fee varies in different provinces, ranging from 6 to 10 florins a year.

A visit paid to the technical high schools is very interesting. Everywhere the earnest study of the work in hand is visible. Nothing appears to be undertaken because it is amusing or as a means to kill time. The very best work that can be produced and presented to the masters for approval is the aim steadfastly pursued. The qualifications of the professors for their work are manifest, as they closely examine and critically review the pupils' work; and it is noticeable how completely they possess the confidence and respect of their pupils.

The subjects are so comprehensively taught that the pupils completing the term are fully capable of entering at once into general practice in technical building or in the construction of machinery. They are qualified to pass the master-builders' examination, as it is required by the school authorities that they shall be actively employed in building work during their holidays. Under the guidance of the professors they inspect new buildings, thus gaining practical knowledge that renders their services of great value; and they are gladly taken into private architects' and builders' offices.

The course of study in the higher technical schools is as follows: German language, geography and history, physics, chemistry, mathematics, geometry and geometric drawing, free-hand drawing, writing, science of projection and drawing, free-hand drawing of machinery, building mechanics, architectural science and drawing, stone building and drawing, wood building and drawing, iron building and drawing, mechanics, machinery construction and drawing, technology of mechanics, general building science, bookkeeping, science of art styles, architecture and drafting, road-making and laying water mains, and surveying.

In connection with the State technical school in Vienna there is a school for foremen, clerks of works, etc., with building and machinery divisions, each comprising four half-yearly courses—the winter from October 15 to the middle of March, the summer from the middle of March to July 15. In the building division the four courses are continued through the winter; in summer, only the second and third courses. The four machinery courses follow in unbroken succession. To enter this school it is required, in the building department, that the applicant, having passed through the *volks* school, shall have been occupied one season at least, and through the whole summer preceding his entrance, in practical building. In the machinery division, besides the training received at the primary school, he

must have spent at least two years in a machine smith's, a locksmith's, or a mechanic's workshop. The half-yearly entrance fees are 10 florins and the tuition fee 6 florins, payable in advance. Upon the production of certificates of inability to pay, fees are remitted. In the building division the studies are as follows:

Course I.—German, 4 hours weekly; arithmetic, 6; geometry, 5; natural philosophy, 4; draftsmanship and drawing, 12; free-hand drawing, 10; geography, 2; total, 43.

Course II.—German, 2 hours weekly; arithmetic, 4; draftsmanship and drawing, 8; architectural forms and drawing, 6; building construction in wood and stone, with drawing, 12; physics, 2; geometry, 4; total, 44.

Course III.—German, 2 hours weekly; mathematics, 4; architectural forms and drawing, 8; free-hand drawing, 6; draftsmanship and drawing, 6; building in wood and stone and drawing, 12; construction in iron, 5; chemistry, 2; total, 44.

Course IV.—Bookkeeping, 4 hours weekly; building mechanics, 4; free-hand drawing, 5; interiors (finishing and drawing details), 8; building oversight, 2; art of building, 3; building plans, 10; stonecutting, 4; surveying, 4; total, 44.

In the machinery division course 1 is the same as in the building division.

Course II.—Mathematics, 4 hours weekly; geometry, 4; draftsmanship and drawing, 6; science of machinery, 6; drawing machinery, 12; mechanics, 5; German, 2; physics, 2; total, 41.

Course III.—German, 2 hours weekly; mathematics, 4; mechanics, 8; technology, 6; free-hand drawing of machinery, 5; machine construction, 8; machine drawing, 6; total, 39.

Course IV.—Science of machinery, 6 hours weekly; machinery drawing, 15; technology, 6; technological drawing, 3; mechanics, 5; bookkeeping, 4; total, 39.

In the division for masters and assistants the instruction is given in ten courses for (1) stokers, machine attendants, ship engineers, and engine-drivers; (2) machine smiths and fitters; (3) gas and water works, heating, and ventilation; (4) printers and compositors; (5) bricklayers and carpenters; (6) builders, joiners, and locksmiths; (7) cabinetmakers and art locksmiths; (8) modelers and sculptors; (9) art industrial drawing; (10) general.

On week evenings from 6:30 to 8:30 and on Sunday mornings from 8 to 12 the school is open for apprentices and assistants free of fees. So highly is this boon valued that from the surrounding suburbs pupils actively engaged in their workshops during the day muster in the various class rooms in the evenings and on Sunday mornings to the number of 900 or more, in order to pursue their lessons under the direct supervision of the professors. Strong moral and commercial influence is thus brought to bear upon the rising generation.

No. 157—4.

The following details show to what extent the various trades are represented by the pupils:

Pupils.	Number.	Pupils.	Number.
Machine smiths and fitters.....	165	Bookbinders.....	6
Machine attendants.....	9	Potter.....	1
Engine-drivers.....	9	Fancy-leather worker.....	1
Tin-workers.....	14	Turner.....	1
Iron and metal workers.....	26	Watchmaker.....	1
Stokers.....	8	Miller.....	1
Mechanics.....	18	Merchants.....	2
Building and art locksmiths.....	56	Railway superintendent.....	1
Joiners.....	115	Founders.....	6
Pattern-maker.....	1	Saddlers.....	3
Sculptors and modelers.....	34	White embroiderer.....	1
Carpenters.....	16	Illuminator.....	1
Bricklayers.....	21	Wheelwrights.....	2
Lithographers.....	2	Japanner.....	1
Decorators.....	8	Tailor.....	1
Upholsterers.....	5	Shoemaker.....	1
Metal-chasers.....	4	Stone masons.....	6
Gilders.....	2	Draftsmen.....	6
Goldsmiths.....	4	Foremen of decorators.....	10
Engraver.....	1	Smiths.....	7
House-painters.....	2	Factory foremen.....	3
Installateurs.....	3	Unknown.....	10
Bronze-worker.....	1		
Gun-makers.....	3	Total.....	599
Model-pointer.....	1		

JULIUS GOLDSCHMIDT,

Consul-General.

VIENNA, April 13, 1893.

BELGIUM.

The following are among the most important technical schools in Belgium:

UNIVERSITY OF GHENT—DEPARTMENT OF CIVIL ENGINEERING, ARTS, AND MANUFACTURES.

This department is divided into two sections—preparatory and special. The preparatory division is also divided into two sections—(1) civil engineering; (2) arts and manufactures. The first section is especially designed for young men wishing to equip themselves as engineers or superintendents in the topographical corps or railway service, or who may only desire to obtain diplomas as civil engineers, civil architects, or civil superintendents. The various courses require one, two, and three years.

The section of arts and manufactures, under the supervision of the inspector of studies of the annex, is divided into three sections. The courses embrace mechanics, physics, chemistry, metallurgy, architecture, social economy, surveying, technology, electricity, analytical chemistry, industrial mechanics, technology of textile matters, industrial construction, etc. The course requires two years. The number of students in 1890 was 783.

The city of Ghent annually appropriates 16,000 francs (\$3,088) for the purpose of assisting needy but worthy scholars.

UNIVERSITY OF LIEGE—DEPARTMENT OF ARTS AND MANUFACTURES AND MINES.

This département is divided into three sections—(1) preparatory school; (2) mines; (3) arts and manufactures. The course in the preparatory school is two years, and its object is to fit pupils for either the school of mines or the school of arts and manufactures. The course in the school of mines is two years. Instruction is given in all branches appertaining to mines and mining engineering. Applicants must be at least 18 years of age, and they are admitted only through public competitive examination.

The section of arts and manufactures embraces in its teachings thorough instruction in science as applied to general industry, especially as to mineral and chemical industries and to mechanical art.

There are special classes for students desiring to acquire a thorough knowledge of working mines, without becoming mining engineers, and for those wishing to equip themselves as electricians. The course is three years.

The number of students in 1890 was 235.

UNIVERSITY OF BRUSSELS—POLYTECHNIC INSTITUTE.

Although an annex of the University of Brussels, the Polytechnic Institute receives an annual subsidy from the city and its suburbs of 34,000 francs (\$6,562). Students are admitted through public competitive examinations held semiannually, subject to the approval of the rector of the university. The examining commission is composed of university professors, except in rare cases. The date of examination is announced eight days in advance in the official journal of the Government. Examinations are oral, but not absolutely so, as competitors may, by request, undergo written examinations. Successful competitors receive a certificate or diploma stating that they have passed in a satisfactory manner, "with distinction," "with great distinction," or "with very great distinction."

Unsuccessful competitors can not present themselves again for examination until the expiration of a year. The course varies from two to four years, according to studies pursued or profession adopted.

INDUSTRIAL SCHOOL AND SCHOOL OF MINES AT MONS.

The organization of this institute was first proposed by the provincial governor in 1837; but no effective steps were taken until the following year, when it was decided to establish an institute for the express purpose of fitting young men for foremen, superintendents, overseers, and skilled artisans, as well as directors or managers of mines or factories. The school was opened November 1, 1838, and instruction given in physics, mineralogy, geometry, mining, mechanics, and civil construction. The course was two years. By vote of the provincial council of the Hainaut in 1845 this institute was reorganized and special attention was directed toward fitting students to become directors of the various industries of the Hainaut. The management of the institute, as well as the classes, was then reorganized and the course extended to three years, instead of two. From 1845-'46 classes in political economy, customs legislation, commercial law, and the legislation of mines were added. Again in 1876-'77 additional classes were formed and the course extended to four years. The institute is under the control of the provincial council of the Hainaut, but managed by an administrative commission composed of seven members, three of whom are appointed by the provincial council, two by the communal council of Mons, and two by the minister of agriculture, industry, and public works. The instruction received is equal to that of the high schools attached to the four universities of Belgium. During the first and second year pupils are required to remain eight hours daily in class. Classes in the third and fourth year have no fixed daily hours. Attendance is regulated by the amount of time required for lessons and practical demonstrations. The scholastic year is divided into three terms ending, respectively, January 1, three days before Easter, and end of July. Pupils are subjected to one examination in each term and to a general examination at the closing term. The tuition fee for a single course or for all is 120 francs (\$23.16) per year, half of which is paid in advance. The institute admits

both pay and free pupils. Pay pupils are not admitted under 16 years of age, and not until they have passed an examination in the elementary branches, algebra, and plane trigonometry.

The annual income is 62,450 francs (\$12,053), viz: Subsidy from the State, 20,043 francs; subsidy from the province, 27,087 francs; subsidy from Mons, 9,320 francs; tuition fees, 6,000 francs.

The average annual attendance is 80 pupils. Not only are mining engineers graduated from the institute of Mons, but also engineers capable of directing all kinds of industries.

INDUSTRIAL SCHOOLS.

Industrial schools were established by various communal councils, as well as by private individuals. The principal object of such schools is to afford an opportunity to the workingman to acquire scientific instruction not obtainable in workshops or factories. The studies include mathematics as applied to industry, physics (general and applied), theoretical and practical chemistry, industrial mechanics, lineal drawing, drawing as applied to industry, hygiene, and industrial economy. Other courses, such as elementary mineralogy, metallurgy, architecture, decorative drawing, modeling, industrial construction, mining, weaving, and theory of textile fabrics, are taught if the requirements of local industries demand it. In many of the industrial schools professional classes have been added, and in some of them there is a department devoted to primary instruction and elementary industrial and commercial bookkeeping. A few schools demand a trifling tuition fee from pupils not belonging to the commune, as well as from those whose parents are in comfortable circumstances, but generally the schools are free. The course extends from one to six years. In Flemish provinces instruction is given in the Flemish language.

The schools are managed by trustees. The working corps consists of a director, professors, and inspectors. The directors and professors are usually appointed by the municipal council, recommended by the trustees. Such appointments are, however, submitted to the Government for approval. In some schools these appointments are made directly by the Government upon recommendations of the trustees and municipal council. The members serve two and three years, and at the expiration of their term are reëligible.

Pupils under 12 years of age are rarely admitted; the limit is usually from 12 to 14 years. The pupil must also have received instruction in primary studies. In certain cases and schools exception to age limit is made in favor of adults from 18 to 25 years of age.

Industrial school at Anderlecht.—The industrial school at Anderlecht was established in 1889 by the communal council and very shortly afterward annexed to the School of Design and Sculpture, which was established through private enterprise in January, 1882, but which is now under communal jurisdiction. It receives an annual subsidy of 2,750 francs (\$530.75)

from the Government, 200 francs (\$38.60) from the province, and 1,425 francs (\$275.03) from the commune. The school is divided into three sections. The course of study is two years in the first section and three in each of the other two. The classes embrace all branches of study as applied to industry.

Industrial school at Antwerp.—Through the philanthropy of several young men this school was established in 1860 as a simple school of ornamental drawing and architecture. After passing through various stages it finally became a regular communal institute, subsidized by the State and commune. The course is three years. The studies are similar to those taught in the industrial school at Anderlecht. Its annual subsidy is 25,000 francs (\$4,925), viz: From the State, 9,500 francs; from the province, 4,500 francs; from the city, 11,000 francs. The average yearly attendance is 355.

Industrial school at Arlon.—This school, originally a school of arts and trades, was reorganized in 1881 as an industrial school and academy of fine arts. Its annual subsidy is 5,075 francs (\$979), viz: From the State, 2,475 francs; from the province, 1,300 francs; from the commune, 1,300 francs. The average annual attendance is 124.

Industrial school and academy of fine arts at Ath.—This school was established in 1870. Its annual subsidy is 3,932 francs (\$767), viz: From the State, 2,185 francs; from the province, 850 francs; from the commune, 897 francs. The average annual attendance is 117.

Industrial school at Bruges.—This school was established in 1853 and annexed to that of fine arts at Bruges. This organization not being satisfactory, the institution became entirely independent in 1861. Its annual subsidy is 9,500 francs (\$1,833), viz: From the State, 3,250 francs; from the province, 3,125 francs; from the commune, 3,125 francs. The average annual attendance is 91.

Industrial school at Brussels.—The industrial school of Brussels was established in 1869 by the communal council, assisted by the province and State. The instruction, which is principally directed to fitting young men as foremen and skilled artisans, comprises classes in arithmetic, elementary algebra, geometry as applied to industrial pursuits, surveying, carpentry; lineal drawing as applied to arts, manufactures, and architecture; elements of civil construction, elementary physics as applied to industrial pursuits, and a special course in electricity. There are also classes in elementary mechanics (motive force, motors, transmitters and receivers, knowledge of the resistance of materials employed in the construction of machines). Particular instruction is given as to steam generators and motors for water or gas. Elementary chemistry as applied to industry, legislative and industrial economy, and elementary hygiene especially considered from an industrial point of view are taught. The courses are given only during the winter months in night classes from 8 to 9:30 p. m. Besides these, there are classes in machine-designing (hours of instruction all the year round from 10 to 12 a. m.), class in building (from 9 to 12 each Sunday), and also a

class in photography. Applicants are not admitted to the school under 14 years of age, and they must know how to read and write correctly and possess a knowledge of the four first rules of arithmetic. The annual income of this school is 120,000 francs (\$23,160), viz: Subsidy from the State, 59,117 francs; from the province, 10,000 francs; from the commune, 44,483 francs; tuition fees, 6,500 francs. The average annual attendance is 533. The course is from two to three years.

Industrial school at Charleroi.—This school was established by the provincial council as a school of mines to fit young men for the positions of superintendents, managers, and overseers of mines. The school was reorganized in 1865 as an industrial school, and is now one of the most important in Belgium. There are courses in the day and in the evening during the entire year, but on Sundays the classes meet for instruction from 9:30 a. m. to 12:30 p. m. only. Its annual subsidy is 13,500 francs (\$2,605), viz: From the State, 4,500 francs; from the province, 4,000 francs; from the commune, 5,000 francs. The average annual attendance is 934. The majority of the pupils are workingmen. The most important trades at Charleroi are mining, fitters, joiners, turners, glassmakers, blacksmiths, boiler-makers, masons, locksmiths, molders, etc.

Besides the industrial schools already enumerated and described, there are like institutions, similarly established and subsidized, at Chatelet, Courtrai, Fontaine-l'Évêque, Furnes, Ghent, Gosselies, Hasselt, Hondeng-Aimeries, Huy, Jamioux, Jemappes, Jumet, La Louvière, Liege, Louvain, Marchienne-au-Pont, Morlanwelz, Namur, Nivelles, Ostende, Paturages, St. Ghislain, Seraing, Soignies, Tournai Verviers, Vilvorde, and Ypres.

MANUAL-TRAINING SCHOOLS.

Manual-training schools in Belgium owe their existence to the great changes brought about at the beginning of the present century in the manufacture of linens, then the most important of Flemish industries. The invention of new machines, division of labor in spinning and weaving, suppression of corporations, enforcement of customs duties, and the progress made in other countries almost completely ruined the manufacturers of this country. In 1817 the first manual-training school was established at Ghent by the municipal council of that city, more for the purpose of supplying occupation to the needy than as a regularly organized school. It was especially devoted to instruction in the art of preparing and manufacturing linen and wool, lace-making, embroidery, sewing, shoemaking, cabinet-making, and even street-cleaning. The founders were prompted only by philanthropic motives. Primary, but not professional, instruction was given. The institution was only successful as an initiative, and it was not until January 26, 1847, that manual-training schools were established by royal decree. Article 1 of this decree reads:

Independently of the schools of manufacture or manual-training schools attached to primary schools, * * * there shall be established for the benefit of young people and adults

manual-training schools where they may fit themselves as skilled artisans. There shall be taught in these model workshops such trades as circumstances and the requirements of the locality demand—artistic manufacture, manufacture of new tissues, and especially such trades as may be pursued by any one workman supplied with inexpensive tools.

The cost of maintenance was defrayed in part by the commune. Every subsidized school was under the supervision of a committee appointed by the Government. Since 1861 manual-training schools have been recognized as permanent institutions.

Only in rare cases are pupils under 12 years of age admitted. It is also requisite that pupils should possess the aptitude for the trade or profession taught in any particular school. A small tuition fee is exacted from those able to pay. Scholars expert in any branch of industry or trade receive from the committee a small fixed salary, according to the value of work performed, under specified conditions with contractors. A sum not less than 5 per cent nor more than 10 per cent is deducted from the salary paid to be added to the reserve fund, which is employed to equip outgoing pupils with necessary tools or implements of trade. Each pupil is provided with a book, in which is inscribed the amount of salary paid and sums deducted. On leaving a school pupils are given a certificate of conduct and capacity. Those quitting a school against the wish of the commission or who are expelled for incapacity or bad conduct forfeit all rights to any share of the reserve fund. The usual course is two years.

There are thirty manual-training schools in Belgium, all of which are subsidized by the State, provinces, and communes. Since the establishment of these institutions some 27,000 workingmen have received professional, as well as primary, instruction.

The average daily wage paid in the schools is 1.02 francs in West Flanders and 1.12 francs in East Flanders.

ANTWERP COMMERCIAL INSTITUTE.

In 1852 the communal council of Antwerp, assisted by the Government, established an institute for the purpose of furnishing a commercial education to young men who desired to engage in commercial pursuits. The institute is managed by an administrative committee composed of six members and a president. The latter position is filled by the mayor of Antwerp. Three members are appointed by the Government and three by the communal council. Their services are rendered gratuitously. One-third of the members of the committee is renewed yearly and in such manner as to include members appointed by both the State and commune. Outgoing members are reëligible. The committee, under advice of the mayor and aldermen, approved by the minister of agriculture, industry, and public works, make such regulations as may seem proper and advantageous, nominate the director and corps of teachers, prepare the budget, examine accounts, and superintend the enforcement of the rules of the institution. Instruction, both

theoretic and practical, is completed in a two years' course and is divided as follows:

First year.—Official commercial correspondence, commercial arithmetic, history of commercial products, political economy and statistics, commercial and industrial geography, commercial law, German, English, Dutch, Spanish, and Italian.

Second year.—Official commercial correspondence, (advanced) history of commercial products, (advanced) general commercial and industrial history, commercial and maritime law, customs legislation, maritime construction and armament, commercial and industrial geography, (advanced) political economy and statistics, German, English, Dutch, Spanish, and Italian.

Scholars pay 200 francs (\$38.60) tuition the first year and 250 francs (\$49.25) for the second year. The faculty has the privilege of admitting Belgian students free.

The department of agriculture, industry, and public works grants a sum of 600 francs (\$115.80) or more to young men of Belgian origin, but of limited means. Recipients of this fund must make application to the minister before the 15th of November, which request must be renewed annually as long as the recipient remains in the institute. There are also annual prizes awarded, varying in amount from 300 to 600 francs (\$57.90 to \$115.80). A library, laboratory, and museum are attached to the institute. The annual expenses of the institute are as follows:

	Francs.	
Salaries of teachers and cost of administration.....	50,000	= \$9,651
Museum, library, laboratory, and commercial bureau.....	5,000	= 965
Fuel and lights.....	2,000	= 386
Examinations.....	1,500	= 289
General expenses.....	1,500	= 289
Division of tuition fees among professors.....	25,000	= 4,825
Total.....	85,000	= 16,405

These expenses are covered by the following receipts:

	Francs.	
Subsidy from the State.....	45,000	= \$8,685
Subsidy from the city.....	15,000	= 2,895
Tuition fees.....	25,000	= 4,825
Total.....	85,000	= 16,405

SCHOOL OF NAVIGATION.

With the object of providing Belgian shipowners the means of securing Belgian seamen for their vessels, the Government some years ago established two schools of navigation, one at Antwerp and one at Ostende. Instruction is free and embraces the following studies: Arithmetic, geometry, trigonometry, nautical astronomy, navigation, rigging, stowage, evolution of craft, maritime steam engines and machines, maritime commerce, meteorological observations at sea, maritime laws, and the English language. Stu-

dents passing a satisfactory examination at the expiration of their studies receive a certificate according to capacity as master or captain, first or second mate of ocean-going vessels, or as masters or mates of coasting and fishing craft.

AGRICULTURAL INSTITUTE AT GEMBLoux.

This institute, established in 1860, is under Government control. The instruction, both theoretical and practical, is as follows:

Theoretical.—Rural engineering, physical and chemical science, natural history, tilling and general agriculture, forestry, zoötomý, rural and forestry laws, constitutional law, agricultural and political economy, rural economy, microscopical analysis.

Practical.—Practical application is made of nearly all the above-mentioned studies.

The course is three years. Pupils, if Belgians, pay an annual fee of 700 francs (\$135.10), which includes board and tuition. Foreigners pay an annual fee of 1,000 francs (\$193). Day pupils, if Belgians, pay 300 francs (\$57.90) per year; if foreigners, 400 francs (\$77.20). Pupils desiring to follow only certain classes pay 50 francs (\$9.65) in advance for each selected class.

HORTICULTURAL AND AGRICULTURAL INSTITUTES.

The Belgian Government has established excellent horticultural and agricultural institutes at Vilvorde, Ghent, and Huy. The instruction, which is both theoretical and practical, is given in both the French and Flemish languages. Belgian students are admitted free. Foreigners pay an annual tuition fee of 150 francs (\$28.95).

FINE ARTS ACADEMIES.

Royal Academy of Fine Arts and Decorative Art School, Brussels.—On the 30th of September, 1711, the "magistrate" of the city of Brussels gave a room in the Hotel de Ville to the senior painters, tapestry-makers, sculptors, and other artists "that they might practice there the arts of painting, drawing, sculpture, and architecture." The progress of the little school was so creditable that the magistrate not only provided it with fuel and lights, but also gave an annual subsidy. The school was shortly afterwards transferred to more commodious quarters. It rendered such services to arts and industries that in 1763 it was taken under Government patronage and received the title of "Academy of Painting and Sculpture," and Prince Charles of Lorraine, who declared himself its patron, gave four medals yearly to such pupils as made distinguished progress. The magistrate accorded the academy yet more privileges, and the province of Brabant also granted a subsidy. On account of the French invasion, its progress was checked, and finally it was forced to close its doors. On the 11th of October, 1800, the mayor of Brussels issued a decree ordering its reopening. The academy is now permanently established in a commodious and completely appointed

building in the rue du Midi. It is managed by an administrative committee composed of twelve members, having as president the mayor of Brussels. The instruction is free. Its annual subsidy is 155,950 francs (\$30,098). Cards of admission are delivered to successful applicants. No one unprovided with such card is admitted to the classes. Students can not enter a higher grade without having passed an examination. The department devoted to fine arts directs its teachings to drawing, painting, sculpture, and architecture in all their application, as well as the sciences necessary to the successful practice of each. The object of the decorative art school is to excite the aptitude of students by presenting to them an opportunity to manifest a preference for some special art as applied to industry.

Royal Academy of Fine Arts, Antwerp.—The Royal Academy of Fine Arts, at Antwerp, was established by the Government and communal council. It is divided into two sections: (1) the superior institute of fine arts, exclusively under Government control; (2) the academy proper, under control of the communal council. The management of the academy is intrusted to an administrative council, composed of six members, assisted by an administrator. One-half of the council is appointed by the State and the other half by the commune. The governor of the province is presiding officer, and the mayor of Antwerp, on account of his official position, is vice-president and member of the council. Members are elected every two years; outgoing members are reëligible. Teachers connected with the academy can not be elected members of the council. The director of the academy and the president of the professional corps of the institute can assist at the meetings. The administrator is appointed by the King, recommended by the administrative and communal councils. Instruction is free in the following classes in the institute of fine arts: Graphic and plastic art, sculpture, engraving on medals, architecture, copper engraving, wood engraving. Other free classes are open to such artists as the Government may judge worthy of favor on condition that they give gratuitous instruction to other students. The institute further gives practical instruction in monumental art and a literary course of such character as to elevate and enlarge the intelligence of the artist. In the academy proper instruction is free in the following classes: Elementary drawing, intermediate course in graphic and plastic art as applied to trade. There are also scientific and literary oral courses and classes in elementary drawing and painting for young ladies. To be admitted to the academy, the applicant must be at least 10 years of age, know how to read and write either in the Flemish or French language, and also understand the elements of arithmetic. Its annual subsidy is 205,410 francs (\$39,644), viz: From the State, 115,255 francs (\$22,244); from the city, 90,155 francs (\$17,400).

Royal Academy of Fine Arts, Liege.—Instruction and regulations are similar to those of the Brussels and Antwerp academies. Its annual subsidy is 60,730 francs (\$11,721), viz: From the State, 15,076 francs; from the province, 3,750 francs; from the city, 41,904 francs.

Miscellaneous.—Besides the academies enumerated, there are schools of design in many of the cities and towns.

CONSERVATORIES OF MUSIC.

There are three royal conservatories of music in Belgium.

Brussels.—On January 29, 1826, there was established at Brussels a school of instrumental and vocal music. The success attending the enterprise was so marked that the Government decided to take the school under its patronage, change its organization and rules, and create in its place the present institute known as the Royal Conservatory of Music. It is managed by a committee jointly appointed by the Government and province, consisting of a president, vice-president, and eight members. The mayor of Brussels is always honorary president of the committee. The conservatory receives from the Government, province, commune, and others an annual subsidy of 221,992 francs (\$42,844), as follows: Government, 164,820 francs (\$31,810); province, 10,000 francs (\$1,930); commune, 25,000 francs (\$4,825); various other sources, 22,172 francs (\$4,279). The professors are appointed by the committee, subject to governmental approval. The conditions relative to admission of students are as follows: Applicants must be at least 9 years of age, know how to read, write, and calculate, and have the necessary physical qualities to successfully pursue intended studies. Applicants over 14 years of age must also possess a thorough knowledge of the rudiments of music. Applicants under 14 years of age must produce certificates stating that they will continue their studies either in a public or private school or at home. The same obligations are imposed on older scholars of deficient education. Foreigners can not be admitted as students unless furnished with a certificate of authorization from the minister of the interior and public works. They pay an annual fee of 200 francs (\$39.60) and are subjected to the same obligations as Belgian students. The average course in *soffège* is four years; technical instruction, instrumental and vocal course, two years; dramatic instruction, two to four years. There is a most valuable and interesting museum of musical instruments, as well as a musical library, connected with the conservatory. Most of the objects and books have been donated by individuals interested in the progress of musical art in Belgium.*

GEO. W. ROOSEVELT,

Consul.

BRUSSELS, May 5, 1893.

* The conservatories at Liege and Ghent were established by royal decree. Their management and rules of admission are the same as those of the royal conservatory at Brussels. The annual subsidy to the royal conservatory at Liege is 122,461 francs (\$23,635); to the royal conservatory at Ghent, 112,221 francs (\$21,658).

GERMANY.

Mr. Alban Förster, editorial secretary to the bureau of statistics of Saxony, has recently published some statistics gathered and tabulated at the instance of the German Society for the Instruction of Boys in Manual Labor concerning the number and character of the manual-training schools in Germany, the manner in which they are supported, etc., extracts from which will no doubt be of interest to persons in the United States engaged in furthering the cause of manual training. These figures were obtained in a private way, and not under Government auspices, and are therefore not as full and complete as they would be had they been taken by governmental direction; but a great deal of care is represented to have been exercised in their collection and preparation, and they seem to afford a very good view of the subject treated.

There are at present in Germany, so far as known, 328 places of instruction in manual training, mostly in cities, 126 (or 38.41 per cent) of which are independent schools and 202 (or 61.59 per cent) auxiliary affairs connected with asylums or institutions of learning. Of these latter, 4 are in connection with the higher schools, 12 with seminaries for the education of teachers, 5 with the better classes of public schools, 40 with the public schools of the lower classes, 19 with orphan asylums, 3 with asylums for the children of soldiers, 4 with asylums for the weak-minded, 9 with asylums for deserted children, 54 with asylums for the care of children, 13 with asylums for the blind, 25 with asylums for the deaf and dumb, and 14 with other institutions.

Since 1888 there have been 156 manual-training schools established. Of the 328 schools or places of instruction mentioned, 201 are in the Kingdom of Prussia and 47 in Saxony. Dresden has the largest number of manual-training schools, namely, 17; Cologne follows with 15; Berlin, 10; Leipzig, 8; Halle, 7; Bremen, 6; Hanover, Lübeck, and Magdeburg, 5 each; Aix la Chapelle, Barmen, Emden, Hamburg, and Munich, 4 each; Düren, Königsberg, Weimar, and Würzburg, 3 each, etc.*

One hundred and forty-two schools, that is, 45 per cent of the whole number, are maintained at State and communal expense (21 per cent of them by the states and 24 by the communes); 122 schools, or 38 per cent of all, by societies; 32, or 10 per cent, by private persons; 8, or 2½ per cent, by religious bodies; and 16, or 5 per cent, in other ways. Fifty per cent of the independent schools and 31 per cent of the auxiliary ones are conducted by societies, while of those under official management the relation is 33 per cent of the former to 51 per cent of the latter.

Prior to 1878 there seems to have been no independent manual-training schools in Germany, and of manual-training schools as auxiliary to some-

* The numbers given include both independent and auxiliary teaching.

thing else there were only 26. Ever since 1776 instruction in manual training has been going on within the limits of what is now the German Empire; since that year, for instance, at a Moravian institution for boys at Kleinwelka, in Saxony; since 1784 at an educational institution at Schnepfenthal, in Gotha; since 1806 at a royal asylum for the blind at Steglitz, in Prussia; since 1823 in an asylum for the deaf and dumb at Gmünd, in Würtemberg; and so on in 14 other institutions for from twenty-five to sixty years. The instruction at all these places has been more or less of a purely mechanical character.

The real manual-training schools, educative in scope, began to be established about the close of the seventies, and grew, it is said, as follows: 1878, 1; 1879, 3; 1880, 8; 1881, 15; 1882, 7; 1883, 8; 1884 and 1885, 13 each; 1886, 10; 1887, 19; 1888, 24; 1889, 42; 1890, 51; and 1891, 63. The schools for manual training (including those of a purely mechanical or trade character) have jumped from 27 in 1878 to 328 in 1892. The Saxons were the first to introduce the modern manual-training school into Germany; and Saxony, Mr. Förster says, is still the state in Germany where the most attention is paid to manual training under the new methods.

The entire number of instructors in Germany engaged in manual training amounts to 648, of whom 499 (77 per cent) are professional teachers and 149 (23 per cent) not regular teachers, but mechanics or workingmen. In 1888 there were only 256 persons altogether employed in giving instruction of the kind. The gain has been 153 per cent.

Of the 648 instructors, 285 (44 per cent) were in the independent schools and 363 (56 per cent) in the auxiliary schools. Of the 285 instructors in the independent schools, 249 were regular teachers and 36 artisans, while of the 363 in the auxiliary schools 250 were professional teachers and 113 workingmen. The number of pupils participating in the manual instruction imparted was 14,215 in 1892, against 5,678 in 1888, or an increase of 150 per cent; thus almost as great an augmentation of the number of pupils as of teachers. Of the 14,215 pupils, 7,374 (52 per cent) were at the independent schools and 6,841 (48 per cent) in the auxiliary ones. It is estimated that there were 29.8 pupils, on the average, to each 100,000 of the population of the Empire. In the different political divisions of the Empire the proportion per 100,000 inhabitants is given as follows:

Division.	Proportion.	Division.	Proportion.
Free city of Lübeck.....	222.5	Kingdom of Prussia.....	26.6
Duchy of Saxe-Coburg-Gotha.....	112.4	Grand duchy of Baden.....	23.1
Free city of Bremen.....	93.2	Duchy of Brunswick.....	18.3
Kingdom of Saxony.....	84.5	Principality of Schwarzburg-Sondershausen.....	15.9
Principality of Schwarzburg-Rudolstadt.....	69.9	Kingdom of Württemberg.....	10.2
Grand duchy of Saxe-Weimar.....	65	Kingdom of Bavaria.....	7.8
Principality of Reuss, younger line.....	56.8	Principality of Anhalt.....	4.4
Imperial province of Alsace-Lorraine.....	55.2	Grand duchy of Hesse.....	1.5
Principality of Lippe.....	47.5		
Duchy of Saxe-Meiningen.....	42	Total average for Empire.....	29.8
Free city of Hamburg.....	27.3		

Instruction in working with paste and paper is the prevailing mode of disciplining the hand, wood-carving or whittling coming second, and planing third. Instruction in modeling seems to have been common in but 4 per cent of the schools.

In most of the schools the instruction extends through the year, as 243 schools (74 per cent) gave instruction all the year through, 65 (21 per cent) in winter only, and 4 (1 per cent) only in summer, while of 16 (4 per cent) the length of time is not stated.

The number of hours per week taught is made manifest by the following table :

Hours of instruction weekly.	Number of manual-training schools.	
	Regular.	Auxiliary.
1.....		4
2.....	62	56
3.....	15	26
4.....	37	33
5.....		5
6.....	3	15
7 to 10.....		9
11 to 20.....		8
20 and over.....		2
Varying time.....	5	21
Not stated.....	4	17
Total.....	126	202

Only 4 schools were contented with but one hour a week instruction. The great body of the schools, namely, 241, or nearly 75 per cent of them all, had from two to four hours' instruction per week, that is, 118 (36 per cent) two hours per week, 31 (10 per cent) three hours, and 92 (28 per cent) four hours. Five hours of instruction show only 5 schools, or not quite 2 per cent. Twenty-two schools (7 per cent) had six hours weekly of instruction, while only 19 (6 per cent) taught more than six hours per week. The last named were trade schools, and had more of a mechanical character. The independent schools show a greater number of hours of instruction than the auxiliary ones.

The tuition fees vary greatly. Twenty-two schools (61 per cent) make no fixed charge for instruction; 32 ask from 1 to 3 marks (23 to 71 cents) semiannually; 9, from 4 to 5 marks (95 cents to \$1.19); 32, 6 marks (\$1.42); 25, from 7 to 10 marks (\$1.66 to \$2.38); 11, some 12 marks (\$2.85); 3, 18 marks (\$4.28); and 2 go as high as 20 marks (\$4.76), all semiannually. The higher rates prevail, of course, among the independent schools.

The tuition fees paid are tabulated by Mr. Förster as follows :

Fees (semiannual).	Manual-training schools.	
	Regular.	Auxiliary.
Having no fixed fee.....	48	160
23 to 71 cents.....	20	12
95 cents to \$1.19.....	4	5
\$1.42.....	25	7
\$1.66 to \$2.38.....	12	13
\$2.85.....	9	2
\$4.28 to \$4.76.....	5	
Various fees.....	9	3
Total.....	176	202

Some schools grant instruction free to the indigent, and others have a number of free places.

Mr. Förster reckons the annual cost of maintenance of the schools for manual training at 170,000 marks (\$40,460), that is, at 100,000 marks (\$23,800) for the independent schools and 70,000 marks (\$16,660) for the auxiliary ones. From this reckoning he excludes costs of outfit and the expenditures of schools of a strictly mechanical character, whose products bring in sufficient to cover the costs of maintenance. The average cost per pupil in the independent schools he figures out to be 13 marks (\$3.09) and in the auxiliary ones 12 marks (\$2.85) a year.

There being 328 schools and the total cost of maintenance \$40,460, the average outlay per school would be \$125—not a very large sum.

Manual training is fostered officially either by the imparting of instruction in State, provincial, or communal institutions and schools, or by the grant of money or other aid to institutions in the hands of societies, private individuals, etc. The officials of the Prussian provinces of Brandenburg, Pomerania, Saxony, Schleswig-Holstein, Hanover, Hesse-Nassau, Westphalia, and the Rhineland have introduced instruction in manual training in many asylums and institutions under their direction for orphans and the blind and deaf and dumb. Also, in several military establishments having under their care the orphans and children of soldiers manual training has been introduced. In Bavarian asylums for the blind and deaf and dumb the same has been done. The Saxon government is particularly noted for the encouragement it gives to instruction in manual training in its benevolent institutions. The officials of Würtemberg, Baden, Saxe-Weimar, Anhalt, Reuss, Alsace-Lorraine, Lübeck, and Bremen have also introduced instruction in manual training in some of their public institutions. There are about 70 public institutions where manual training is imparted, costing annually some 25,000 marks (\$5,950).

Furthermore, in some seventy German municipalities and communes instruction in manual training has been introduced by the officials, either by the establishment or support of independent schools or the providing of

auxiliary instruction in the common schools and public asylums. By these about 40,000 marks (\$9,500) are expended. This is done in such cities as Berlin, Dresden, Leipsic, Cologne, Magdeburg, Elberfeld, Barmen, Strasburg, Aix la Chapelle, Carlsruhe, etc. Strasburg and Mülhausen, in Alsace-Lorraine, are said to be doing more, however, than any other cities, spending about 9,000 marks (\$2,100) yearly together for manual training.

The aid received from the State by schools under the charge of societies or private persons is chiefly in the form of money. About 23,000 marks (\$5,500) a year are expended in this way on some 63 schools. The aid such schools get from municipalities or communes is mostly in the nature of a free place of instruction, heat, light, and cleaning; but sometimes it is money that is furnished. About fifty communes, mostly cities, further the cause of manual training in these ways at an expenditure of about 17,000 marks (\$4,000) a year.

A recapitulation of the above in tabular form makes the following exhibit:

Amounts annually expended by State and communal officials in Germany in behalf of manual training.

Description.	By State officials.	By the cities and communes.	Total.
On public schools and institutions	\$5,950	\$9,520	\$15,450
As grants to schools and institutions in the hands of societies or private individuals.....	5,500	4,000	9,520
Total.....	11,450	13,520	24,970

TECHNICAL SCHOOLS IN EUROPE AND THE UNITED STATES.

Respecting foreign countries, Mr. Förster says that Finland was the first country to recognize manual training as a part of common-school education, having in 1866 made it obligatory in its seminaries and city and country schools. In Russia there is manual training in 116 schools (seminaries, cadet, public, and elementary schools). Sweden has fostered manual training since 1877 as an optional study. The number of schools where it is a branch of study is 1,600. With a population of only 4,600,000 this Kingdom spends annually on manual training about \$92,000, or more than twice as much as Germany (\$40,460), with its population running close to 50,000,000. Norway makes instruction in manual training obligatory in all municipal schools and teachers' seminaries, but optional in the country schools. Denmark appropriates large sums for such instruction. In France manual training has been made obligatory in all public and common schools by a law passed in March, 1882. Manual training is being taught in some 20,000 French schools now. In the French seminaries, which graduate about 1,800 teachers each year, instruction in manual training is one of the courses. In Belgium about 25,000 children are being given manual training. Mr. Förster

also mentions Holland, Switzerland, Austria, Italy, England, and the United States as countries which are also paying attention to manual training; but he does not say to what extent.

Taking into consideration all that has been said above, it would seem that Germany is somewhat behind other countries in the encouragement given to manual training, and that much remains to be done on its part in behalf of this branch of culture.

JAMES H. SMITH,
Commercial Agent.

MAYENCE, *June 22, 1893.*

The most important of the technical schools in Chemnitz, are the Staats-lehranstalten and the Höhere Webschule. The Technische Staatslehranstalten (State Polytechnic Institute) includes seven schools, viz: (1) The Höhere Gewerbschule (Higher Trades School); (2) Baugewerkschule (Building School); (3) Werkmeisterschule (School for Master Workmen); (4) Müllerschule (School for Millers); (5) Färberschule (School for Dyers); (6) Seifensiederschule (School for Soap-Makers); and (7) Gewerbezeichnen-schule (School of Mechanical Drawing)—all of which are treated of in this report.

For the school year 1891-'92 there were enrolled 1,169 students, divided as follows:

School.	Full course.	Partial.	Total.
High Trades School.....	339	14	353
Building School.....	140	.....	140
School for Master Workmen.....	304	71	375
School for Millers.....	17	.....	17
School for Dyers.....	18	.....	18
School for Soap-Makers.....	10	.....	10
School for Mechanical Drawing.....	256	.....	256
Total.....	1,084	85	1,169

Of the 1,084 students in the institute, 694 were natives of Saxony, 310 of other parts of Germany, and 80 foreigners, of whom 6 were Americans. The tuition of 63 students, amounting to 3,360 marks, was remitted during the year through various scholarships endowed by individuals and aid received from the Saxon government. The expenditures were as follows: For the increasing of the collections in mineralogy, chemistry, etc., 4,073.55 marks (\$969.61); for the library, 6,870.60 marks, (\$1,635); for school supplies, 36.59 marks (\$8.80).

The library contains 17,070 bound volumes, 1,743 atlases, 4,727 brochures, 453 maps, and 60,278 patent manuscripts. During the year 1891 there were loaned 7,450 volumes, as follows: To 47 teachers, 1,923; to 1,006 students, 5,013; to others, 2,960; also, 995 patent records were consulted.

The system of marking is the same as that in use in the public schools, viz: 1 and 1*b*, *sehr gut* (very good); 2*a*, 2, and 2*b*, *gut* (good); 3*a*, 3, and 3*b*, *genügend* (passed); 4, *ungenügend* (not passed); 5, *ganz ungenügend* (no good). The highest attainable is 1; "a" denotes a degree higher, "b" a degree lower than the figure alone. Thus 2*a* is higher than 2, while 2*b* is lower.

ROYAL HIGHER TRADES SCHOOL.

This school offers to those intending to devote themselves to one of the departments given below the means of obtaining, through carefully planned instruction and suitable practical application, the necessary scientific preparation appropriate for each.

A.—Mechanical technology; for those intending to become manufacturers, superintendents (*Directoren*), or mechanical experts (*Techniker*) in the different departments of mechanical technology (machine-building, spinning and weaving, etc.).

B.—Chemical technology; for intending manufacturers, superintendents, experts, etc., in the different chemical trades and manufacturing departments.

C.—Building; for architects. The instruction in this department is not parallel with that given in the Building School, from which it differs in having a broader scope and the plan of instruction differently arranged.

E.—Electrical technology; for manufacturers, engineers, and experts in electric apparatus.

Each of these departments has three courses, of which the first requires three terms (*Halbjahre*) and the second two. The third course in the mechanical, chemical, and electrical departments require two terms and in the building department only one. In studies which are the same in all four departments instruction is given to all the students together when practicable. Instruction begins in the first course of departments A, B, and E in the first week after Easter; in the first of the building department, as well as the second and third courses in all three divisions, the first week in October.

The students in the first course in the building department have, after their first term, a summer term of practical work in the business. Entrance into this school, except in special cases, must be at the beginning of the course. Candidates must be at least 15 years old, must be vaccinated, must possess the necessary preliminary knowledge, and, in cases of minors, must have the consent of the father or guardian. In the case of those entering the first course of the building department, at least half a year must have been spent in practical building work. For scholars in department A from one to two years' experience in a machine shop of small or medium size is recommended, and for scholars in division E such a course in a machine shop or in electrical works.

At the beginning of the first course students are admitted without examination who have certificates showing that they have completed the

course in a *Gymnasium* or *Real-Gymnasium* for entrance into the *Obersekunda* or in a *Real-Schule* and have a mark of over 3 (*genügend*) in German and mathematics. Those are also admitted without examinations who have successfully completed a year or more in the *Obersekunda* of a *Gymnasium* or a *Real-Gymnasium*. All those candidates for admission who have not already passed their preliminary scientific examinations for voluntary military service, or refer to it only before the examining committee, are subject to examination. To these examinations candidates can also be admitted who have completed their course for the *Obersekunda* or in the *Real-Schule*, but whose mark was not above 3 (*genügend*) in German and mathematics, or who have not entered a higher class in the *Real-Gymnasium* or *Gymnasium* than *Untersekunda*.

For admission, these must also bring certificates showing the mark attained in each case. On account of lack of space, those who have attained a higher practical experience may be advanced in proportion upon their entrance. The entrance examinations include German, mathematics, geography, and French. The requirements are: In German, accuracy in spelling and in elementary grammar and ability to prepare compositions; in mathematics, knowledge of algebra and simple equations and plane geometry; in geography, knowledge of the most essential parts of physical and political geography; in French, principal rules of construction and syntax.

For entrance into a higher course after it is begun the additional knowledge of what has already been gone over by the class is required. Those who enter the second or third term of the first course or a higher one in the building division must have had two terms of practical experience. For special examinations for entrance in higher course or for other causes an extra charge of 10 marks (§2.38) is made. The admission is final (*endgiltig*) when the applicant has fully complied with these conditions. It is conditional (*bedingt*) if the examination shows an incomplete preparation, but a prospect of its being made up. The conditional entrance becomes final if no further cause of delay appears on the mark attained at the end of the first term.

Application for admission is to be made to the board of directors, either orally or in writing, for the Easter term not later than Palm Sunday; for the fall term not later than September 15. The condition as given above must be complied with by bringing the officially sealed or stamped certificate of birth, the certificate of vaccination, and all the school testimonials, together with the written consent of the father or guardian. Those who have had practical experience must present testimonials as to all their work and their progress and must state which department they wish to enter and whether they have already had one term (department C, second term).

All these certificates and testimonials must be presented at least a week before the examinations. All students are alike subject to the rules of the school, and in relation to attendance, behavior, and preparation of required work are subject to the oversight of the board of directors and the instructors.

At Michaelmas and Easter a report of the standing and deportment of each student is sent to parents or guardians. Only those students who have attained in all branches at least the mark 3 are allowed to advance to the next higher course, nor are students allowed to go on to the work of any term unless the same mark (3—*genügend*) has been attained for the work of the previous term. Any student who has taken the work of the same course or term twice without attaining the necessary average must leave the school. Any student leaving the school before the completion of the full course may have a certificate showing progress made and the length of time spent in the school.

Students who have completed the third course, having a mark of at least "passed" (*genügend*) in all the studies of the last term and having an average mark of "fairly good" (*ziemlich gut*) for the last three terms, receive a diploma (*Absolutorial-Zeugniss*); but, if they have fulfilled only the first and second conditions, they receive only a testimonial (*Abgangsszeugniss*) giving a summary of the several term marks. Those who have received a diploma and who wish to continue their studies in a higher school, instead of devoting themselves to immediate practice, are admitted without examination as undergraduates (*Studirende*), as distinguished from listeners (*Hörern*) or special students (*Hospitanten*), to the Royal Technical High School, at Dresden, and the Royal Bergakademie, and will also be admitted to all examinations in the Dresden High School except that for the higher public service in the building department.

Persons who are of age may be allowed by the director, with the consent of the teachers concerned, to attend particular lectures and practical work. They are considered *Hospitanten*, are not subject to the rules of the school, and may obtain a certificate showing that they have received such instructions and for how long. This permission may be revoked at any time for sufficient cause.

The tuition fee is 60 marks (§14.28) per term for Germans and 120 marks (§28.56) for others, payable in advance at Easter and Michaelmas. German *Hospitanten* and students in single studies pay 5 marks (§1.19) for each hour of instruction per week up to 60 marks (§14.28) per twelve or more hours, and others pay twice as much. Tuition once paid will under no circumstances be returned. Indigent and worthy students who are natives of Saxony and have attended the school at least one term may have the tuition remitted. The institute possesses a number of fixed scholarships for assisting students. Applicants for remission of tuition or scholarships must present in writing to the board of directors (under the rule of the royal minister of the interior of 1850) suitable testimonials as to their need. The expenses for books, writing and drawing materials, etc., average 40 to 50 marks (§9.52 to §11.90) a year.

The directors refer students to families where they may obtain board and lodging, for which the expense varies from 600 to 1,000 marks (§142.28 to §238) a year.

The course of study is as follows:

FIRST COURSE.

FIRST TERM.

For all the departments together, separated into divisions according to qualification (departments A, B, and E in summer and C in winter).

(1) German language (three hours per week). Preparation of written compositions and oral theses; reading and explaining middle high German and the later classic fiction (continued in second and third terms, Nos. 11 and 26); logic.

(2) Free-hand drawing (four hours per week). Drawing from charts and models; practice in India ink; study of colors.

(3) Geometric and projection drawing (four hours per week). Constructions in planes preliminary to geometric and technical drawing; elements of projection; representation of bodies bounded by plane surfaces and spherical bodies in different positions through perpendicular projection; elementary sketching practice; plane cross sections of bodies; simple relief drawing; practice in India ink. (Continued in second term, No. 18.)

(4) Mathematics (eight hours per week). Review in detail of the divisions of elementary mathematics required for admission and continuation of same; plane geometry; arithmetic and algebra, including theory of potentials, with positive integral exponents; equations of the first degree with one unknown quantity, with applications.

(5) Chemistry (four hours per week). Inorganic chemistry, introduction; theory of atoms; chemical combination; reference to nonmetals and their more important compounds.

For departments A, B, and E, divided according to qualification.

(6) Physics (four hours per week). Introduction; mechanics of solids.

(7) Building and architectural drawing (four hours per week). Study of materials; first part of stone construction; walls, their construction and penetration; the vaulted arch; architectural drawing from assigned subjects.

For department C.

(8) Physics (four hours per week). Introduction; general mechanics; mechanics of solids; hydrostatics.

(9) Architectural drawing (four hours per week). Drawing parts of buildings, moldings, etc., with illustrations; copying of plans.

(10) Building materials (two hours per week).

SECOND (WINTER) TERM.

For all departments, divided according to qualification.

(11) German language (three hours per week). Continuation of No. 1; rhetoric.

(12) Mathematics (eight hours per week). Solution of problems in plane geometry by geometric and algebraic analysis; goniometry and plane trigonometry potentials; roots; logarithms; equations of the second degree with one unknown quantity, with applications.

(13) Chemistry (four hours per week). Inorganic chemistry; continuation of No. 5; reference to more important metals and their compounds.

For departments A, B, and E, divided as above.

(14) Geometrical drawing (six hours). Stereometric drawing; supplementary instruction on perpendicular projection of points, lines, angular figures, and circles on a plane of projection; drawing figures on two planes of projection; shifting and removing; axis of projection; straight lines through given points; planes through given point and straight line; intersection of planes and straight line; introduction of new planes of projection; differences between points and straight lines; angles between planes and straight lines; shadows of points, lines, and plane figures. (Continued in third term, No. 31.)

(15) Physics (four hours per week). Hydrostatics; hydrodynamics; aërostatics; aërodynamics; wave theory; acoustics.

(16) Machine drawing and sketching (two hours per week.) Drawing of machine parts and simple power and working machines from models and from sketches taken by the students themselves.

(17) Building and architectural drawing (four hours per week). Continuation of No. 7; wood construction; roofs, both supported by pillars and free, with special regard to factory building; massive ceilings; chimneys in buildings; steam flues; stairs; architectural drawing as in No. 7, as well as sketching practice on high buildings.

(18) Projection drawing (two hours per week). Continuation of No. 3.

(19) Technical calculations (one hour per week). Exercises on superficial pressure, pistons, valves, cross sections of belts and ropes; exercises on velocity, adjustment of wheels, pumps, tubes, exercise on mechanical work, working of power machines, transmission by ropes and belts; winding appliances. (Continued in third term, No. 33.)

For department C.

(20) Geometrical drawing (four hours per week). Auxiliary instructions in stereometric drawing; orthogonal projection; drawing of plane figures on one plane of projection; affinity; graphic determination of straight lines and planes, with exercises on mutual relations of these figures; affinity of projections of plane systems; transition from one projection system to another; changing of objects already drawn.

(21) Physics (four hours per week). Hydrodynamics; aërostatics; aërodynamics; wave theory; acoustics; transmission of light; photometry; reflection of light.

(22) Free-hand drawing (four hours per week). Continuation of No. 2.

(23) Building and architectural drawing (four hours per week). Plans of agricultural buildings and small dwelling houses.

(24) Building construction (four hours per week). Laying foundations—the site, its improvement, removing water; foundations of pillars; sunk shafts; caissons; gratings; stone construction; dressing and working of stone; construction of walls and pillars of quarry stone, hewn stone, and brick; drains; apertures in walls and the necessary frames, etc.; stone ceilings and vaults; necessary tools and scaffolding.

For department E, together with No. 50.

(25) Physics (four hours per week in last weeks of term). Frictional and induced electricity.

THIRD (SUMMER) TERM.

For all departments, divided according to qualification.

(26) German language (three hours). Continuation of Nos. I and II; poetry.

(27) Mathematics (eight hours). Trigonometrical exercises; solid geometry (stereometry); equations of the first and second degree with more than one unknown quantity, with applications; continued fractions and indeterminate equations; exponential equations; progressions; calculating interest and rents.

For departments A, B, and E.

(28) Chemistry (for departments A and E two hours per week, for B four hours). Organic chemistry; consideration of most important organic compounds.

(29) Physics (four hours). Optics; transmission of light; photometry; reflection; refraction; spectrum analysis and the most important points in interference of light; polarization and double refraction.

(30) Building and agricultural drawing (four hours). Continuation of No. 17; iron construction for high buildings; proper fitting up of buildings, especially workshops; their ventilation; architectural drawing as in No. 17; small designs; factory fittings.

For departments A and E.

(31) Geometrical drawings (four hours). Projection of bodies with plane surfaces; plane sections of bodies of three dimensions; shadows proper and shading of bodies of three dimensions; shadow of one such body on another; drawing curved lines, especially circles and spirals; shading of a circular body; elements of perspective.

(32) Machine drawing (four hours). Continuation of No. 16; theory of construction of toothed wheels.

(33) Technical calculations (one hour). Continuation of No. 19; calculation of axes and wheels.

For department A.

(34) Surveying (half a day per week). Practical exercises in field surveying, description, trial and use of simple surveying apparatus; marking off and measuring straight lines; erection and dropping of perpendicular; surveying single plots and boundaries with the chain and goniometer; plating from field notes; computation of area; elementary work with surveyor's table; surveying of plats, either with free or obstructed "sights;" description, trial, and use of the leveling instrument; surveying and drawing of profiles and horizontal curves.

For department B.

(35) Chemistry (two hours). Beginning of instruction in the sections of organic chemistry necessary for those in the chemical department, in addition to the course of all departments together.

(36) Practical chemical work in the laboratory (eight hours). Exercises in qualitative analysis and performing of easy chemical operations.

For department C.

(37) Physics (four hours). Refraction; spectrum analysis; most important points in interference and polarization; theory of heat; thermometers; expansion by heat.

(38) Free-hand drawing (two hours). Drawing and shading from the larger building ornamentation.

(39) Building and architectural drawing (six hours). Continuation of No. 23; fitting up of buildings.

(40) Building construction (six hours). Wood construction—wood joining, construction of wooden walls, wood ceilings, girders, pillars, roof construction; iron construction in broad sense.

(a) Construction in which iron is used as an auxiliary to wood or stone; anchors, props, shoes, etc.

(b) Iron construction proper; stays; pillars; beam and roof construction.

(41) Geometrical drawing (four hours). Derivation of distances and magnitude of angles from projection; computation of roof surfaces; elements of shading and perspective; bodies with plane surfaces and their combination; shadows and shading.

(42) Chemical technology (two hours). Chalk; mortar; air-slaked mortar; water-slaked mortar; plaster.

For department E, together with No. 74.

(43) Physics (four hours). Voltaic electricity; electrolysis; magnetism and electro-magnetism.

ELECTIVE STUDIES OF FIRST COURSE.

(44) Geography (three hours in first and second terms). European countries and peoples; civilized peoples outside of Europe.

(45) History (three hours in third term). Brief survey of antiquity and the Middle Ages.

(46) Commercial arithmetic (for departments A and B two hours per week in first term, for Department C two hours in third term). Rebates and provisions; interest and discount; explanation of Leipsic gold and exchange; reports and computation according to same; simple problems in exchange, and exchange discount; computation of interest in account current; bonds and stocks; trade accounts (invoices, etc.).

(47) French (three hours per week throughout course). Composition; word order; concordance; cases and prepositions; use of tenses, indicative and conjunctive, infinitive and participle. The following text-books are used: "Kurzgefasste systematische Grammatik der französischen Sprache" and "Methodisches Lese- und Übungsbuch," by Plötz. Reading of standard selections from "La jeune France littéraire," by J. Forrest. (Continued in second and third courses.)

(48) English (three hours per week during all three terms). Grammar on basis of the manual "Vollständiger Lehrgang der Englischen Sprache," by Plate. As reading exercises there are used during the first two terms the reader which accompanies the manual, and in the third term some easy classic.

SECOND COURSE.

FIRST (WINTER) TERM.

For all departments together, separated into divisions according to qualification.

(49) German language and history of literature (two hours). Exercises in speaking and history of older literature. (Continued in No. 73.)

For departments A, B, and E.

(50) Physics (four hours). Theory of heat; thermometrics; expansion; change of state of aggregation; radiation of heat; calorimetrics; mechanical equivalent of heat; frictional and induced electricity. (Continued in second term, No. 74.)

For departments A and E.

(51) Mathematics (eight hours). Algebraic analysis; first part of higher algebra and of differential and integral calculus; analytic geometry (plane). (Continued in second term, No. 76.)

(52) Geometrical drawing (four hours). Axonometric and oblique projection; curved surfaces in general; cylinders, cones, etc.; cutting of curved surfaces by planes and straight lines; unrolling surface of cylinders and cones; intersection of curved surfaces; shading of hollow bodies; shade of one round body upon another; regular spiral surfaces, especially screw spirals and their applications. (Continued in second term, No. 80.)

(53) Mechanics (four hours). Theory of equilibrium and motion of solid, liquid, and gaseous bodies, with as much attention to detail as the application later to machines and machine-building demands, and, so far as practicable,

with application of higher mathematics ; first part, combination and decomposition of forces ; force in a plane ; conditions of equilibrium ; pairs of forces ; forces in space ; center of parallel forces ; center of gravity ; stability ; Guldin's rule ; friction ; stiffness of cords ; theory of elasticity and rigidity. (Continued in second term, No. 77.)

(54) Machine drawing (six hours). Designing machine parts. (Continued in No. 78.)

For departments A and B.

(55) Chemical technology (two hours). Water—its source and its circulation in nature, its retention and its changes, application in domestic economy and the trades, its fitness for use ; filters and conduits ; heating and fuel ; lighting and illuminating materials. (Continued in No. 75.)

For department A.

(56) Surveying (two hours). Lectures concluding the theoretical part of the instruction begun in the first course, and, so far as practicable, practice in platting ; illustration of terrain situation, etc.

For department B.

(57) Technological chemistry (two hours). The whole department of inorganic chemistry reviewed, in order to fix and widen the chemical knowledge and judgment of the student, and its application in the most important trades given and an illustration of the most important chemical manufactures (sulphuric acid, soda, chloride of lime, etc.) ; also the principal inorganic natural products, so far as they are not considered in chemical technology and metallurgy, are taken up in their proper places. (Continued in No. 81.)

(58) Analytic chemistry (two hours). Qualitative analysis reviewed and completed ; quantitative analysis touched upon.

(59) Practical chemical work in the laboratory (sixteen hours). Practice in qualitative and quantitative analysis ; illustration and examination of different preparations. (Continued in No. 82.)

(60) Mineralogy (four hours). Mineralogical characteristics, with special attention to crystallography ; description of the more important minerals ; sketch of the precious stones.

(61) Mechanics (two hours). Theory of equilibrium and the movement of solid, liquid, and gaseous bodies, with special attention to the chapters most important to chemical technique, under exclusive application of elementary mathematics. (Continued in No. 83.)

(62) Machine drawing (two hours). Drawing of machine parts and simple machines from models and from sketches taken by the students themselves. (Continued in No. 84.)

For department C.

(63) Physics (two hours). Theory of heat continued ; state of aggregation finished ; relation of the vapors ; radiation of heat ; calorimetrics ;

mechanical equivalent of heat; electricity; frictional and induced electricity. (Continued in No. 91.)

(64) Mathematics (six hours). Elements of differential and integral calculus; analytical geometry (straight lines, circles, and conic sections); tangents and normal plane curves; rectification; quadrature; cubature; evolution and involution. (Continued in No. 85.)

(65) Geometrical drawing (four hours). Perspective drawings of different plane objects with definite boundaries (stairs, walls, etc.) and the proper shading; curved lines and surfaces in general; special cone, cylinder, and rotating surfaces; intersection of curved surfaces with planes and with each other; conic sections; shading of revolving surfaces. The method of projection used is ordinarily the rectangular, but in many cases (cross, arches, etc.) the perspective.

(66) Mechanics of building construction and graphical statics (two hours). Conditions of equilibrium of forces on solid bodies; polygon of forces; polygon of cords; reciprocal action of forces; truss and street frames; theory of rigidity; simple strength of materials (bending with stroke or pressure, breaking), calculation of pillars and doubly supported columns. (Continued in No. 86.)

(67) Building construction (four hours). Continuation of No. 40; stonecutting; interior construction; stone, wood, and iron stairs; floors (paved, plastered, or of wood); protecting and decorating inside and outside walls; interior wood construction (wainscoting and doors, wooden and iron window frames, including the trimmings); ceilings in wood and stucco; coatings of all kinds; roof coverings (wood, straw, tile, slate, metal, and paper roofs).

(68) Designing (eight hours). Making of plans, according to a given outline, of dwelling houses of all kinds fitted up in various ways, schools, churches, railway stations, factories, etc.; preparation of specifications and working drawings in different ways; preparing plans for renovating and remodeling old buildings. (Continued in Nos. 88 and 119.)

(69) Free-hand drawing (four hours). Drawing and sketching extended to the larger ornamentation of different styles of building. Advanced students begin figure drawing.

(70) Theory of pillar arrangement and styles (two hours). Arrangement of pillars explained by lectures and illustrated in detail by selected examples; cornice forms of the renaissance.

For department E.

(71) General electro-technique (three hours). Brief review of theory of electricity and magnetism; setting up, operation, application, and inspection of dynamos; electric lighting and transmission of power; accumulators. (Also elective for third course.)

(72) Telegraphy and telephony (two hours). Detailed treatment of house telegraph and telephone plants; the most important of the different telegraphs and telephones. (Continued in No. 92.)

SECOND (SUMMER) TERM.

For all departments.

(73) German language and history of literature (two hours). Continuation of No. 49.

For departments A and B.

(74) Physics (two hours). Operation of discharge currents; electrolysis; magnetism and electro-magnetism.

(75) Chemical technology (two hours). Continuation of No. 55.

(76) Mathematics (eight hours). Continuation of No. 51.

(77) Mechanics (five hours). Continuation of No. 53; movement of mathematical points; velocity; acceleration; motion of projectiles; movement of plane systems; mechanical work; mechanical power; movement of material points; living forces; principle of work; parallel motion of one material system; revolving motion; inertia; centrifugal force; inclined motion of one material system; principle of d'Alembert; percussion of solid bodies; elements of graphical statics with application to the calculation of machine parts and bridge girders.

(78) Machine drawing (six hours). Continuation of No. 54.

(79) Machine-building (four hours). Construction of machine parts; construction of screws; screw, rivet, and wedge jointing; framework, etc.; tooth wheels and pulleys.

For department A.

(80) Geometrical drawing (two hours). Continuation of No. 52.

For department B.

(81) Technical chemistry (two hours). Continuation of No. 57.

(82) Practical chemical work in the laboratory (sixteen hours). Continuation of No. 59.

(83) Mechanics (four hours). Continuation of No. 61.

(84) Machine drawing (four hours). Continuation of No. 62.

For department C.

(85) Mathematics (six hours). Continuation of No. 64.

(86) Mechanics of building construction and graphical statics (four hours). Continuation of No. 66; elastic line; calculation and graphical determination of spliced beams; ceilings; iron and wooden roof frames; stability of walls; graphical determination of arches, pillars, buttresses; chimneys; retaining walls.

(87) History of architecture (two hours). Consideration of the development of building methods among the civilized nations influential in our time and the most important monuments of the builder's art.

(88) Designing (ten hours). Elaboration of a dwelling house according to a given plan of construction; small collaborative designs; excursions.

(89) Free-hand drawing (four hours). At the beginning of the term and on rainy days landscape drawing from studies; later, in good weather, from nature; for advanced students in colors.

(90) Surveying (half a day per week). Practice like No. 34.

(91) Physics (two hours). Voltaic electricity; electrolysis; magnetism; electro-magnetism.

For department E.

(92) Telegraphy and telephony (two hours). Continuation of No. 72.

(93) Special electro-technique (two hours). Theoretical treatment of electric and magnetic phenomena; instruments and methods of measuring electricity and magnetism. (Continued in first term of third course, No. 122.)

(94) Practical work in the laboratory (eight hours). Measuring strength of currents, resistance and tension of conductors; gauging of measuring instruments; photometry; electro-static and magnetic measurements. (Continued in third course, No. 123.)

ELECTIVE STUDIES IN SECOND COURSE.

(95) History (three hours per week in both terms). History of modern times.

(96) Bookkeeping and correspondence (two hours in first term). Theoretical part of bookkeeping; explanation of different methods of bookkeeping; object, arrangement, and use of ledger and other books; practical part, business routine extending over a period of three months both by single and double entry; correspondence; business papers.

(97) French (three hours in both terms). Instruction continued in grammar; syntax of the articles, adverbs, and numerals; pronouns; conjunctions.

(98) English (three hours in both terms). Instruction continued in grammar, second part of Plate; dictation; reading of some easy classic work.

THIRD COURSE.

FIRST (WINTER) TERM.

For all departments together, separated into divisions according to qualification.

(99) German language and history of literature (two hours). Practice in speaking; history of the later literature from Opitz to Lessing, and general characteristics of further development down to the present.

For departments A, B, and E together, separated into divisions according to qualifications.

(100) Political economy (two hours). Elements of political economy by Roscher; statement of essential principles of trade, commerce, and labor relations; finance. (Continued in second term, No. 125.)

(101) Metallurgy (two hours). Discussion of source and characteristics of the most important metals, especially iron.

(102) Mechanical technology (four hours). Characteristics of the technically important metals and alloys; molds and castings; tools and machines for working metal; characteristics of wood; tools and machines for working it.

For departments A and E.

(103) Mathematics (four hours). Second part of higher algebra and differential and integral calculus; elements of the method of least squares; spherical trigonometry; analytical geometry of space. (Continued in second term, No. 127.)

(104) Mechanics (two hours). Continuation of instruction in mechanics in second course; hydrostatics; pressure of fluids in rest; stability of floating bodies; hydromechanics; hydraulic press; discharge of water from vessels; water pipes; motion of water in rivers and canals; reservoirs; equilibrium and motion of gaseous bodies.

(105) Machine-building (four hours). Construction of machine parts (tenons and shafts, couplings, cords and chains, bars, levers, windlasses and windlass bars, core wheels, guides, brakes, springs, pistons, valves, cocks, and sluices); machines for moving weights; pumps. (Continued in second term, No. 128.)

(106) Machine theory (four hours). Living motors; steam engines; counterpoises and fly wheels; regulators; elements of mechanical theory of heat; steam heat; steam boilers; vertical water wheels and turbines; measurement of moving forces; blowing machines. (Continued in second term, No. 129.)

For department A.

(107) Machine construction (twelve hours). Plans of machine parts and machines. (Continued in second term, No. 130.)

For department B.

(108) Physics (two hours). Illustration and practical experience of the methods used in physical determination; determination of specific gravity of bodies in all three states of aggregation, noting correction for temperature; polarization of sugar; determination of specific heat and other physical operations performed by chemical means.

(109) Technical chemistry (two hours). Consideration of manufacture of inorganic commercial products continued and organic begun. (Continued in second term, No. 131.)

(110) Practical chemical work in the laboratory (sixteen hours). As in second course, but in work selected with regard to the future vocation of the student. (Continued in second term, No. 132.)

(111) Machine drawing (two hours). Continuation of instruction in second course. (Continued in summer term, No. 133.)

(112) Instruction in machinery (four hours). Most important machine elements for strength and for transmission, alteration, and regulation of motion; motors in common use; the most important working machines, with

special regard to the requirements of chemical technique. (Continued in summer term, No. 134.)

For department C.

(113) History of molding and painting (one hour).

(114) Building laws (one hour). Consultation and explanation of police regulations on building (Saxon building ordinance in law of February 27, 1869); local building ordinances, regulations concerning fire insurance, etc.

(115) Heating and ventilation (two hours). Essentials of heating, fuels in general, fire space, heat space, chimneys, local heating, determination of heating surface, central heating; air, its contamination, dampness, velocity; influence of outer air on ventilating appliances; natural and artificial ventilation; dimensions of ventilating flues.

(116) Free-hand drawing (four hours). Designs of ornaments for special objects or rooms or of entire ornamental objects, making use of pattern sheets and models.

(117) Interior decoration (four hours). Designs of wall, floor, and ceiling decorations in wood, stucco, etc., based on the renaissance and later styles of building; in conclusion of instruction in designing, No. 88.

(118) Cost estimates (two hours). Finding average price for mason and carpenter work, etc.; preparing estimates of cost for a given plan; preparing approximate estimates; estimating value of buildings; formalities necessary in building contracts, etc.

(119) Designing (fourteen hours). Continuation of No. 88, with application of perspective.

(120) Machine-building (two hours). Lifting apparatus; raising by hand and by steam power; hand rams and steam rams; pumps; steam boilers; stationary engines; locomotives; water wheels and turbines.

(121) Street construction and waterworks (two hours). Study of construction of the city streets, lengthwise and cross profile; elements of earth construction, drainage, tools and machines, different methods of street construction, study of reservoir construction, strengthening of banks; foundations; waterworks-dam building; water supply of city, etc. The instruction is limited to consideration of general fundamental principles, without going into special details.

For department E.

(122) Special electro-technique (four hours). Continuation of No. 93; continuous-current machines and accumulators; alternating-current machines and transformers; electric lighting and transmission of power; the most important points of electro-chemistry.

(123) Practical work in the laboratory (eight hours). Continuation of No. 94; measurements of electric apparatus; testing lightning rods; measurement of continuous-current machines and plants; working measurements; provisional installation of plants, using the materials at hand and practice in their use.

SECOND (SUMMER) TERM.

For departments A, B, and E, divided as above.

(124) German language and history of literature (two hours). Practice in speaking; special study of the history of literature from Lessing on.

(125) Political economy (four hours). Continuation of No. 100.

For departments A and B together.

(126) Mechanical technology (four hours). Peculiarities of fibrous materials, especially cotton, flax, wool, and silk; their spinning and weaving; paper manufacturing.

For departments A and E.

(127) Mathematics (four hours). Continuation of No. 103.

(128) Machine-building (four hours). Continuation of No. 105.

(129) Machine theory (four hours). Continuation of No. 106.

For department A.

(130) Machine construction (twelve hours). Continuation of No. 107.

For department B.

(131) Technical chemistry (four hours). Continuation of No. 109.

(132) Practical chemical work in the laboratory (sixteen hours). Continuation of No. 110.

(133) Machine drawing (four hours). Continuation of No. 111.

(134) Instruction in machinery (two hours). Continuation of No. 112.

For department E.

(135) Designing electric apparatus (four hours). Designs and calculations for machines and simple apparatus; fitting and working of electric centers.

(136) Practical work in the laboratory (sixteen hours). Continuation of No. 123.

ELECTIVE STUDIES IN THIRD COURSE.

(137) French (two hours). Syntactical exercises from Plötz; dictation on history of French literature; conversation.

(138) English (two hours). Continuation and finishing of the grammar and practice in translating German compositions into English; reading some classic author; dictation; conversation.

(139) First aid for the injured (double hours in summer term). Skeleton; muscles, nerves, and principal organs of the human body; circulation of the blood; breathing; contusions, wounds, bleeding, broken bones, dislocations, sprains; saving from burning and from drowning; treatment in cases of drowning, freezing, and suffocation, lightning stroke, poisoning, partial burning; transportation of accident cases; practice in using folded

and unfolded triangular cloths, roll bandages, and splints in stopping bleeding; artificial breathing as a means of restoring those apparently dead; removing the wounded.

To students in the third course and in the second term of the second course of the building department is given, also, opportunity to avail themselves of the instruction in the following departments of the *Werkmeister-schule*:

Mill-building (two hours in winter term). Characteristic of different systems of cutting mills; their return for power expended; fitting of oil mills with special regard to hydraulic presses and pumps; milling processes; the most important of the preparatory and auxiliary machines used in flour-making.

Waterworks construction (two hours in summer term). Obtaining and storing water; cisterns; improvement of springs; sinking ordinary and artesian wells; purifying river water; water pipes; reservoirs; characteristics of different systems of pumps; calculation of their capacity and their necessary use in mechanical work.

Machine-tool building (two hours in summer and winter term). Description and calculation of machine tools for working metal and wood, especially lathes, boring and cutting machines, planing and grooving machines, screw-cutting machines; illustration of working of the foregoing; tools; carving and edge tools; use of power; ascertaining motion of principal and supplementary, direct and transmitted motion; reference to constructive forms and peculiarities of machine tools; study of details.

Brewery mechanics (two hours in summer term). General view of preparation of beer from grain; materials used in making beer, their qualities so far as important to the brewer, and the machines and buildings used in their preparation and preservation; preparation of malt; cleaning and sorting the grain; soaking; setting on the malt floor; mechanical setting apparatus; malt kilns and their management in preparing different kinds of malt; marks and qualities of a good malt; its cleaning and preservation; brewing with wort and the machinery employed; malt presses, mash machines, clarifying apparatus; brewing pans and the necessary mason work; pump and piping; hop strainers; hop presses; boiling-house arrangement; cooling apparatus.

Distillery machines (two hours in winter term). Alcohol and the characteristics most important to the understanding of the distilling processes; general view of the manufacture of spirits and the materials used; potatoes and their characteristics; producing of the mash machines for washing; the older machines for boiling, cleaning, and mashing potatoes; description, working, and use of the newer mashing apparatus; preparation of distilling malt and its difference from brewing malt; thinning and cooling of mash; cooling apparatus; description of fermentation and preparation of yeast and the space and apparatus used; building, working, and use of the distillery apparatus.

Paper manufacture (two hours in summer term). Historical ; range of modern papers ; kinds ; raw materials and auxiliary materials.

Half-material manufacture. Cutters, dusters, boilers, engines, defibrers, refiners, sorters ; soda process for production of straw and esparto materials ; soda sulphate and sulphite process for wood pulp, with the proper machinery ; bleaching with chlorine gas and chloride of lime ; the proper machines and fittings ; whole-material manufacture ; engines, refiners, crushing mills, new German apparatus (circular stamp work) ; mixing, sizing, and dyeing ; engine mixing ; application of colors ; hand paper machines ; air drying ; long-sieve and round-sieve paper machines ; dampening, glazing, cutting, and rolling with the proper machinery ; sorting, numbering, and packing ; packing presses.

Fire extinguishing (two hours in winter term). Natural and artificial extinguishing agents ; water presses and hydrants ; the outfit, wagon, pails, hose, engines, and their auxiliaries, ladders, etc. ; demolishing tools ; the service ; giving the alarm ; lighting ; tactics for large, medium, and small fires ; rescue apparatus ; rescue bags, life-saving nets, lines, etc.

General electro-technique, exclusive of telegraph (three hours in winter term). Brief review of instruction in electricity and magnetism ; fittings, manner of working, use, and trial of dynamo-electric machines ; electric lighting and transmission of power ; accumulators.

Spinning (four hours in winter term). Peculiarities of the different spun fibers and the consequent variations in the preparative and spinning process ; individual machines, considering the principal points of the less easily understood mechanism ; calculation of loss of power and capacity (using gauge bar) ; elementary theory of the flier.

Weaving (four hours in summer term). Classification of woven goods ; the simple hand loom and its parts ; the beginning and finishing process ; coupers, dobby or treadle machines ; Jacquard machines ; figuring and lancing ; double-woven goods, velvet, chenille, preparation for weaving, spooling, shearing, dressing, the mark, etc. ; mechanical preparation with the necessary machinery ; mechanical looms, arrangement, frames, motive mechanism, the mechanism for weaving of presses, guards, and harness, safety appliances ; ketten and cloth beam regulation ; treadle machines ; drop-box lathes.

Mechanics of finishing processes (two hours in summer term). Description of the apparatus and machinery necessary in the dyeing and finishing process in weaving, especially washing, drying, ringing, strengthening, steaming, sprinkling, smoothing and polishing, fulling, roughing, shearing, etc., in different kinds of weaving.

Hosiery-knitting (two hours in summer and winter term). Hand knitting, meshing of plain goods, necessary tools ; kinds of hand frames ; frame numbers and yarn numbers ; meshing of plain and ribbed goods in hand frames ; knit goods varieties (plain and ribbed) ; mechanical knitting (plain knitters, round and flat) ; rib knitters ; knitting machines ; shaping and finishing knit goods.

Finally, the students in the advanced classes of the building department may be allowed to attend the "selected lectures on particular chapters of political economy" assigned for the *Werkmeisterschule*, and also the instruction in modeling included in the course of the *Gewerbzeichnenschule* (school of mechanical drawing).

The course in the *Gewerbschule* includes many branches also taken up in the other schools of the *Staatslehranstalten*; but the instruction is adapted to a different class of students, being more general and theoretical and broader in its scope, since the other schools take only so much of any science as applies to the special branch of technique studied in that department. The purpose of the schools of dyeing, building, etc., is to fit the students for skilled work in the trade, while the *Gewerbschule* aims to produce experts in the various departments of technology. There were 337 students enrolled in 1891, of whom 163 were natives of Saxony, 139 natives of other parts of Germany, and 35 foreigners divided as follows: Austria, 5; Italy, 2; England, 2; Russia, 5; Switzerland, 1; the Netherlands, 2; Roumania, 3; America, 5.

BUILDING SCHOOL.

The course of study in this school is as follows:

FIRST (WINTER) TERM.

(1) General building construction (four hours). Consideration of the various parts and requisites of building in general; plans; arrangement and fittings of buildings of different designs (dwellings, agricultural and manufacturing buildings); foundations.

(2) Elements of theory of form and architectural drawing (six hours). Joints and cornices, windows and doors; pillar arrangement, etc.; drawing practice, with lectures interspersed. (Continued in second term.)

(3) Free-hand drawing (six hours). Training eye and hand to comprehend and reproduce surface and relief ornamentation in clear outline from drawings and plaster models; practice in sketching and drawing from memory; drawing from plaster models with different shadings; designing ornaments. (Continued in second, third, and fourth terms.)

(4) Arithmetic (five hours). The four ground principles, with general and special application; potentials with integral exponents; extraction of square and cube roots; equations of first degree with one and with more than one unknown quantity.

(5) Geometry (five hours). The most important sections are congruents; equality and likeness of plane figures bounded by straight lines; theory of circles; determination of contents of plane surfaces; the most important sections of solid geometry, especially finding superficial area and contents of bodies.

(6) Theory of projection in connection with practice (eight hours). General fundamental principles of projection; projection of lines, surfaces, and

bodies; cutting and penetration of bodies; shading; axonometric projection; practice in India ink.

(7) German language (four hours). Most important points in theory of words and composition; practice in oral and written expression, with special attention to spelling.

SECOND TERM.

(8) Stone construction (four hours). Materials; building with brick and hewn stone; stone construction of halls, etc., and their appurtenances (walls, pillars, window and door scaffolding, stone cornices, supports, etc.); stone-arch constructions, tunnels, etc., including simple stone bridges; stonecutting; stairs of hewn stone, brick, and cement; stone and plaster floors. (Continued in third term.)

(9) Wood construction (four hours). Materials; simple wood construction; floors, paneled walls (timbered and ceiled), ceilings, etc.; rafters, upper and lower beams, branch sleepers, grate sleepers, truss and strut frames, etc.; form and construction of roofs, including roof coverings; stairs, doors, and windows; building and arch scaffoldings. (Continued in third term.)

(10) Building laws (one hour). Reference to and explanation of police building regulations; local building ordinances; regulations concerning fire precautions.

(11) Elements of theory of form and architectural drawing (four hours). Like first term, No. 2.

(12) Designing (five hours). Beginning of designing through completion of given sketches. Designs of agricultural and manufacturing buildings, common dwelling houses, etc.; preparation of working drawings. (Continued in third and fourth terms.)

(13) Free-hand drawing (four hours). Like first term.

(14) Perspective (two hours). General ground principles of perspective.

(15) Mathematics (four hours). Review of equations of the first degree; quadratic equations; exercises.

(16) Physics (fourteen hours). General characteristics and states of aggregation of bodies, with special reference to liquid and gaseous; most important points in theory of sound, light, electricity, and magnetism; some of the important chemical experiments. (Continued in third term.)

(17) German language (four hours). Continuation of exercises; business papers and introduction to preparation of more extended compositions.

THIRD TERM.

(18) Stone construction (three hours). Like second term.

(19) Wood construction (three hours). Like second term.

(20) Designing (twelve hours). Like second term.

(21) Firing, heating, and ventilating apparatus (three hours). Firing apparatus in general; heating apparatus, cooking stoves, etc.; firing apparatus (for boilers); the different systems of central heating and ventilation.

- (22) Free-hand drawing (four hours). Like first term.
- (23) Mathematics (four hours). Trigonometry; exercises.
- (24) Physics (two hours). Like second term.
- (25) Mechanics (four hours). General principles; motion, force, mass, work; exercises; combination and decomposition of forces; center of gravity; stability; strength; the most important building machines; principal points of hydrostatics. (Continued in fourth term.)
- (26) Field surveying, leveling, and drawing plans (three hours). Surveying building sites and small groups of buildings with chain and transit; leveling; drawing ground plans.
- (27) German language (two hours). Continuation of exercises; brief survey of principal characteristics of German literature.

FOURTH TERM.

- (28) Iron construction (four hours). Materials; joining of iron; constructional parts; single and compound beams; construction of ceilings and their beams; pillars and supports; roofs, also in conjunction with wood; stairs.
 - (29) Designing for building construction (three hours).
 - (30) Building estimates (three hours). Contents and arrangement of estimates; preparing working estimates for materials and work; exercises in estimating.
 - (31) History of building (two hours). Development of the different styles of building and illustration of their principal and peculiar forms of architecture and ornament.
 - (32) Designing (sixteen hours). Like second term.
 - (33) Free-hand drawing (four hours). Like first term.
 - (34) Perspective (two hours). Exercises in perspective drawing.
 - (35) Mechanics (four hours). Like third term.
 - (36) Bookkeeping (two hours). Simple bookkeeping, with special reference to the requirements of the building trade.
- Students in fourth term are admitted to the instruction in fire extinguishing of the *Werkmeisterschule*.

SCHOOL FOR MASTER WORKMEN.

This school has three departments—A, C, and D—of which A and C (mechanical technique) offer to those intending to become machine-builders, masters and superintendents in machine factories, spinning or weaving establishments, or paper factories, and to millwrights, well contractors, etc., an opportunity to acquire the necessary theoretical preparation; and department D (electro-technique) offers the same to overseers of electric plants.

The course in mechanical technique (departments A and C) covers three terms (*Halbjahre*). Department D has, besides, a fourth term devoted exclusively to electro-technique. In this comparatively brief space of time the students can acquire only the knowledge and practice essential for their

special department of work. It is not the purpose of this school to give a comprehensive scientific education.

Departments A and C begin at Easter and at Michaelmas of each year; department D begins its special instruction only at Michaelmas. Entrance to this school is subject to the following conditions: Candidates must be at least 17 years old and vaccinated, must have the necessary preparation, and must have at least three years' experience in their trade; minors must have the consent of parents or guardians.

For intending machine-builders, work in an ordinary blacksmith's shop or in the drawing department of a machine shop will be counted, but it is urgently recommended that the preparatory work be in a machine shop of middle size. For electricians, practice in a mechanical workshop, in telegraph building, or electro-technical factory will serve as preparation.

Those entering must at least readily write, compose in simple German, and be able to perform easy calculations, both with common and decimal fractions. In these branches an examination is held shortly before the beginning of the term. For entrance into a higher class is required, in addition, knowledge and practice equivalent to that gained by the rest of the students in that class. For such entrance a further examination is required, which is free if taken at the time of the other examinations, but costs 5 marks if taken after the term has begun.

Application for admission must be made to the board of directors of the Technische Staatslehranstalten, orally or in writing, for the Easter term not later than Palm Sunday; for the Michaelmas term not later than September 15. At least a week before the examinations for entrance the following must be presented: The officially sealed or stamped birth certificate, vaccination certificate, school certificates, and certificates of all practical experience. Minors must have the written permission of parents or guardians.

All students are alike subject to the laws of the school and are responsible to the director for deportment and for preparation of assigned work. At Easter and Michaelmas a report of standing and deportment is sent to parents or guardians. A mark of less than 3 excludes from passing to the next higher class. Any student failing twice to pass must leave the school. Students leaving before the completion of the course receive a testimonial showing how long they have been members of the school, their deportment, and their progress.

The tuition fee is 30 marks for each term, payable in advance at Easter and Michaelmas. Tuition paid in is under no circumstances returned. Indigent and worthy students who have attended the school at least one term may, in special cases, be aided through scholarships for that purpose, and the tuition may also be remitted. Applicants for remission of tuition or aid must produce testimonials of their need to the board of directors before the beginning of the term. The expense for books, writing and drawing materials, etc., is about 30 marks a year. The directors will advise the students of families where they can obtain board and lodging, of which the necessary cost is from 600 to 800 marks a year.

Students at the Werkmeisterschule are as a rule excused from military service during the course upon application to the proper authorities. With this school are united the Färberschule and the Fachschule für Seifensieder. The courses in these latter schools begin only at Michaelmas of each year.

COURSE OF STUDY.

FIRST TERM.

For departments A and D—mechanical and electrical technique (winter).

(1) Arithmetic (six hours). The four ground principles, with ordinary numbers and letters; common and decimal fractions; proportion; theory of potentials and roots; solving equations of the first degree with one and with more than one unknown quantity, and quadratic equations with one unknown quantity, with applications.

(2) Geometry (six hours). The most important general characteristics of figures bounded by straight lines; theory of congruents; equality and resemblance; calculation of surfaces; principal characteristics of circles and of allied angular figures; calculation of circumference and area of a circle and of its dimensions; the most important propositions of solid geometry, with special attention to calculation of all the contents of bodies.

(3) Physics (four hours). General characteristics of bodies; equilibrium of liquids and gaseous bodies; heat; elements of chemistry, with special reference to burning processes. (Continued in second term, No. 14.)

(4) Geometrical drawing and projection (eight hours). Construction of plane figures bounded by straight and curved lines; perpendicular projection of points, lines, surfaces, and bodies; exercises; revolution; unrolling; sections; penetration; shading; practice in India ink.

(5) Free-hand drawing (four hours). Training the eye and hand to comprehend and reproduce simple bodies and ornaments in clear outline, partly from drawings and partly from plaster models. (Continued in No. 18.)

(6) German language (four hours). Exercise of the students in the oral and written expression of ideas by composition and extempore speaking, with following discussion; the most important parts of grammar.

For department C—mechanical technique (summer).

(7-12) Same as Nos. 1-6.

SECOND TERM.

For departments A and D—mechanical and electrical technique (summer).

(13) Mathematics and mechanics (eight hours). Logarithms; elements of plane trigonometry; theory of curves as far as it is necessary to the understanding of mechanics; theory of equilibrium and movement of material points and rigid bodies, frictional resistance, rigidity—all treated in an elementary way and limited to the points especially necessary in the technical application, paying special attention to graphical methods.

(14) Physics (two hours). Continued from first term, No. 3.

(15) Machine theory (two hours). Machine elements and organism, in the treatment of which geometrical knowledge or the application of theoretical mechanics is required only to a limited degree; bases; couplings; cogs; belts; engine-driving.

(16) Mechanical technology (four hours). Working of metals, particularly of iron, and of wood.

(17) Machine drawing (eight hours). Preparation of drawings, especially of working drawings, of simple machine parts, bases, coupling, wheels, belt shears, pistons, packing boxes, windlasses, connecting heads, crossheads, valves, etc.

(18) Free-hand drawing (four hours). Continuation of No. 5.

(19) German language (four hours). Practice, particularly in business papers, writings, easy negotiations, etc.; practice in extempore speaking, together with taking notes; the most important sections of the history of German literature.

(20) Field and water surveying (four hours). Description, trial, and application of the simplest surveying instruments; surveying real estate; calculation of areas; leveling of points, lines, and surfaces; water surveying through gauging floats and overflow.

For department D—electrical technique (summer term).

(21) Electricity (two hours). Elements of frictional electricity; galvanism; magnetism and electro-magnetism.

For department C—mechanical technique (winter term).

(22–28) Same as Nos. 13–19.

THIRD TERM.

For departments A and D—mechanical and electrical technique (winter).

(29) Mechanics (four hours). Continuation of theory of rigidity; theory of rigidity and motion of liquid and gaseous bodies, so far as necessary for the instruction in machine theory.

(30) Machine theory (six hours). Continuation of the like instruction in second term; screws; rivets; pins; shafts; belt and rope sheaves; wheels; also lifting tools and power machines. (All instruction elementary.)

(31) Machine drawing (eight hours). Designing machine parts and simple machines; preparing of the proper working drawings. (Reference is had so far as possible to the future work of the student.)

(32) Free-hand drawing (four hours). Making drawings, with shading, from plaster models.

(33) German language (two hours).

(34) Business bookkeeping (two hours). Exercises in preparation of the necessary books, so that they form a complete set and show at once the profit or loss; instruction in the most necessary characteristics of exchange, with reference to the requirements of general commercial law; the German exchange ordinances and the credit ordinance of the German Empire.

(35) Building, including drawing (four hours). Building; wall construction; inclosing of rooms; vaulted arches and their construction; door and window openings; stone ceiling; simple arches; chimneys; wood construction (beams, sleepers, etc., their supports); roofs with and without supporting timbers, with truss and strut frames, etc.; roof covering; stairs; building site; foundations; drawings connected with the subject, including small buildings, from given plans and original.

For department D—electrical technique (winter term).

(36) General electro-technique (three hours). Brief review of theory of electricity and magnetism; fitting up, manner of working, application, and inspection of dynamo-electric machines; electric lighting and transmission of power; accumulators.

(37) Telegraphy and telephony (two hours). Detailed treatment of house telegraph and telephone plants; most important of the various telegraphs and telephones. (Continued in fourth term, No. 46.)

For department C—mechanical technique (summer term).

(38-44) Same as Nos. 29-35.

(45) Same as No. 20.

FOURTH (SUMMER) TERM.

For department D—electrical technique.

(46) Telegraphy and telephony (two hours). Continuation of No. 37.

(47) Special electro-technique (four hours). Most important of electro-technical measuring instruments and methods; continuous-current machines; outfit and working of simple electric-lighting plants.

(48) Practical work in the laboratory (sixteen hours). Measuring of strength of currents; resistance and tension of conductors; testing and gauging technical measuring instruments; testing electro-technical conduction apparatus; regulating arc lamps; simple measurements on dynamos and accumulators and on such powerful-current plants as are available.

Students in second, third, and fourth terms are also given the same opportunity for instruction in special branches as in the third course of the Gewerbschule.

SCHOOL FOR MILLERS.

The course of study in this school is as follows:

FIRST TERM.

(1) Milling in general (four hours). Practical part—the systems of measures, weights, and standards in the other countries most important to the trade; estimates of price according to quality of grain; statistics of granaries and grain trade. Technical part (continued as mill-building in second term, No. 10)—systems of grinding, with their special arrangement of machinery and transportation; transporting, lifting, and weighing appli-

ances of mills; effectiveness and expenditure of power of different milling apparatus; machines for cleaning the grain, etc.; fanning, hulling, and brush machines, etc.

(2) History of milling products in nature (two hours). Treatment of the elements and chemical treatment most important to plant life; analysis of grains, microscopic examination of their structure; flour, dough-making, and baking processes; determination of gluten and flour inspection.

(3) Mathematics and mechanics (eight hours). Logarithms; elements of plane trigonometry; theory of curves so far as necessary to understanding of mechanics; theory of equilibrium and motion of material points and of rigid bodies; frictional resistance; strength. (Treatment elementary and limited by the demand of the practical application.)

(4) Physics (four hours). Theory of heat.

(5) Machine theory. (Same as Werkmeisterschule, No. 9.)

(6) Machine drawing (eight hours). Preparation of working drawings of simple transporting and milling machine parts.

(7) Free-hand drawing (two hours).

(8) German language (four hours). Exercise in preparation of business papers; technological descriptions, etc.; exercises in extempore speaking, with taking notes; most important sections of history of German literature.

(9) Field and water surveying (four hours). Handling of the simples surveying instruments for laying out mill pits, mill ponds, etc.; leveling; water surveying through gauges, floats, etc.

SECOND TERM.

(10) Mill-building (four hours). Pulverizing machines, cylinders, swing mills, millstones; setting up, adjusting, and cutting millstones; grinding and rifling machines for cylinders; cylinder sieves, etc.; machines for cleaning the meal, mixing, and packing flour; transporting apparatus, with reference to the motor and grinding system.

(11) Mechanics (four hours). Same as Werkmeisterschule, No. 15; also weirs and mill pits.

(12) Machine theory (six hours). Continuation of No. 5; valves; shafts; toothed wheels; water wheels; turbines; steam boilers; steam engines.

(13) Machine drawing (eight hours). Drawing from examples and plans of different milling machinery and tools; designing water wheels; plans of mill apparatus from drawings.

(14) Free-hand drawing (two hours). Continuation of No. 7; making and shading drawings from plaster models.

(15) Building (one hour). Window openings, stone ceilings, simple arches; chimneys, wood-joining, sleepers, beams, etc., and their supports; roofs, with their supports; roof construction with truss and strut frames, etc.; stairs; building site; foundation.

(16) Building drawings (one hour). Drawing of small buildings from given designs and original.

(17) German language (two hours). Continuation of No. 8.

(18) Business bookkeeping (two hours). Points most important to the students.

Students are also admitted to certain departments of the Werkmeister-schule.

SCHOOL FOR DYERS.

The following is the course of study in this school :

FIRST (WINTER) TERM.

(1) Chemistry (twelve hours). Fundamental principles; most important chemical elements and their compounds, with special reference to those important for practical and laboratory work; introduction to organic chemistry; glance at the more important carbon compounds.

(2) Physics (four hours). General characteristics of bodies; different states of aggregation; most important points in theory of equilibrium and of movement of solid, liquid, and gaseous bodies.

(3) Arithmetic (six hours). The four ground principles, with ordinary numbers and letters; common and decimal fractions; proportion; theory of potentials and roots; solving of equations of first degree with one unknown quantity.

(4) Geometry (two hours). Most important points of plane geometry; calculation of surface and contents.

(5) Free-hand drawing (four hours). Training the eye and hand to comprehend and reproduce objects of simple form; training the taste for decoration and color combination. (Continued in No. 11.)

(6) German language (four hours). Exercises in oral and written expression of ideas by compositions and extempore speaking, with criticism; most important points of the language.

SECOND (SUMMER) TERM.

(7) Chemical technology (four hours). Water, its circulation in nature (rain, spring, and river water), hard and soft water, purifying for industrial use, etc.; materials used in dyeing and soap-making, as salt, soda, potash, and caustic alkalies, acids, etc.; heating and lighting materials; firing apparatus.

(8) Technical chemistry (two hours). Fats; soaps; maceration; thickening and finishing processes. (Continued in third term.)

(9) Practical chemical work in the laboratory (sixteen hours). Exercises in qualitative analysis; illustrations of preparations; carrying out easy quantitative determinations; determination of value of soda, potash, etc.

(10) Physics (two hours). Theory of heat; optics.

(11) Free-hand drawing (two hours). Continuation of No. 5.

(12) German language (four hours). Preparation of business papers, technological description, etc.; exercise in extempore speaking and taking notes; most important sections of history of German literature.

THIRD TERM.

(13) Business bookkeeping (two hours). Practice in preparation of the necessary business books, so that they shall form a complete set and show at a glance the profit and loss; necessary instruction in peculiarities of exchange, with reference to the decision of the general commercial laws and the exchange.

(14) Dye-school mechanics of finishing process (two hours). Same as in Gewerbschule.

(15) Technical chemistry (six hours). Continuation of No. 8; characteristics; illustration of and elements of application of dyestuffs and dyeing materials; preparation of fibers and tissues for dyeing and pressing; bleaching of cotton, linen, jute, wool, and silk; drying and finishing wool and silk; application of the dyestuffs; vat dyeing; blue print; Turkey-red dyeing; alizarine and aniline black prints, etc.; machines used in bleaching, dyeing, printing, and finishing; preparation of dyed and printed wares; theory of dyeing; preparing and working of dyeing, washing, and fulling water.

(16) Practical chemical work in the laboratory (twenty hours). Continuation of No. 9; qualitative and quantitative analysis; testing and determining the value of soaps, fats, etc.; practical work to familiarize the students with the composition of the most important fats and soaps, and the other materials used in manufacture of pomades, etc., in conclusion of No. 14.

(17) Free-hand drawing (two hours). Continuation of No. 11.

(18) German language (two hours). Continuation of No. 12.

ADDITIONAL ADVANTAGES.

Students are allowed to avail themselves of the instruction in the following branches in the course of the Werkmeisterschule (see course of study):

(19) Waterworks construction (two hours in summer term).

(20) Electrical theory (two hours).

(21) Weaving (four hours).

(22) Spinning (four hours in winter term).

(23) Fire-extinguishing (two hours).

(24) Knitting (two hours, summer and winter term).

(25) Electro-technique (three hours in winter term).

(26) Political economy (two hours). Selected lectures in summer term.

SOAP-MAKING SCHOOL.

The course of study in this school is as follows:

FIRST TERM.

(1-6) Same as in the dye school (preceding).

SECOND TERM.

(7) Same as in dye school.

(8) Technical chemistry, part 1 (two hours). Organic compounds and materials most important in making of pomades, etc., and in soap-making, especially fats and their ingredients; dyes and scents used in soap-making.

(9-13) Same as in dye school.

THIRD TERM.

(14) Technical chemistry, part 1 (six hours). Continuation of No. 8; use of fats, especially soap-making; obtaining and purifying the fats; their characteristics; apparatus and machinery necessary in making household and toilet soaps; different kinds of soap; scents for toilet soap; candle-making; inspection of fats and soaps.

(15-17) Same as 16-18 in dye school.

All students in the second and third terms are allowed to avail themselves of the instruction in the following subjects in the course of the *Werkmeisterschule*:

(18) Waterworks construction (two hours in summer term).

(19) Electrical theory (two hours).

(20) Electro-technique (three hours in winter term).

(21) Fire-extinguishing (two hours).

(22) Selected lectures on special chapters of political economy (two hours in summer term).

MECHANICAL DRAWING SCHOOL.

The course of study in this school is as follows:

(1) Free-hand drawing (four hours per week).

(2) Geometrical drawing (four hours per week).

(3) Projection (four hours per week).

(4) Modeling (four hours per week).

WEAVING SCHOOL.

This school, as its name implies, is devoted exclusively to weaving in all its branches. It was founded in 1857. In 1886 there were 61 students, of whom 39 were from Germany (16 from Saxony), 13 from Austria, 1 from Italy, 6 from Russia, 1 from Denmark, and 1 from the United States. In 1891 there were 60 students, of whom 43 were from Germany (27 from Saxony), 9 from Austria, and 8 from Russia.

There are three scholarships which pay all fees for the holders, and one fund by which tuition may be partially remitted for indigent and worthy students. The tuition is: For Germans, 270 marks; for others, 450 marks; and a charge of 30 marks is made for yarn, patterns, etc. Prizes are given for progress and good behavior. The school provides for the use of the students forty-three hand looms and sixteen machine looms, with the neces-

sary preparatory looms and machinery. There is also a collection of spinning and weaving materials and a number of books of drawing patterns, besides a library of works and magazines on weaving. In 1891 the school was visited and the course of instruction studied by a large deputation from Manchester, England, and by a deputation from the Labor Bureau at Washington.

The course covers one year and is divided into two terms, one beginning at Easter and the other at Michaelmas.

The course of study is as follows :

FIRST TERM.

(1) Lectures on weaving materials and on the construction and system of the different hand looms and supplementary weaving tools (four hours per week).

(2) Analysis of materials for Dobby and, as far as possible, for Jacquard looms ; preparation of the accompanying pattern designs and calculations, together with the necessary instruction on loom appliances and finishing (sixteen hours per week).

(3) Practical exercises in Dobby weaving (eight hours).

(4) Theory of composition (two hours).

(5) Lectures on machine elements and motors ; preparation of drawing for the instruction in mechanical weaving (four hours).

(6) Instruction in sketching machine parts and free-hand drawing (four hours).

SECOND TERM.

(1) Lectures on machine looms and the preparatory and auxiliary machines used in mechanical weaving (eight hours).

(2) Practical exercises in mechanical weaving (eight hours).

(3) Theory of composition (two hours).

(4) Analysis of Jacquard goods, of velvets, gauzes, ribbons, etc., together with the necessary instruction on loom appliances and finishing (eight hours).

(5) Lectures on construction and mechanism of the Jacquard loom and of other complex loom appliances (two hours).

(6) Practical instruction in Jacquard weaving, including velvets, gauzes, ribbons, etc. (six hours).

(7) Free-hand drawing ; arrangement of colored patterns ; introduction to designing (four hours).

JOHN A. BARNES.

Consul.

CHEMNITZ, *April 15, 1893.*

TECHNICAL AND ARTISTIC INSTRUCTION IN SWITZERLAND AND GERMANY.*

[From a letter written by Pierre Staron, of St. Etienne.—Translation.]

The industrial competition among the nations of Europe is enormous and is growing daily. The efforts which Germany and Switzerland are making to outstrip us [France] in many lines of industry are remarkable and easily apparent. A short time ago they were dependent upon us commercially; to-day they are our rivals; to-morrow they will be our masters, unless we rise to the exigencies of the industrial and business situation.

I shall confine my observations to a single branch of industrial activity, namely, the manufacture of silk goods and ribbons.

That Germany and Switzerland are dangerous rivals in the field where French supremacy was so recently uncontested, must be admitted. To what means do these two nations owe their rapid advance in the manufacture of silk goods? I will tell you. They owe all of their steady and wonderful progress to the excellence of their magnificently managed and equipped technical or manual-training schools, from which are turned out each year workmen who are in reality artists, with whom henceforth all our industries will have to reckon.

The Swiss and Germans have perfectly understood that the chief factor of the industrial prosperity of a country lay in the technical education of the future producers. In order to develop in young men love of work and artistic tastes, no sacrifice has been deemed too great. On every side museums started up, rich with innumerable collections, where workmen of every rank and of every class are coming to seek new ideas, to gather information from the work of the masters, and to create in their turn works of art. Besides these museums, there are industrial-art schools, attended by a considerable number of students—by young men destined for different trades and by workmen desiring to perfect themselves in technical knowledge.

Does this mean that France has done nothing to develop artistic technical education? No. But it shows that she is much behind her neighbors and indicates how much she has to do if she hopes to keep up with them.

Rapidity of execution suffices us (in France). We live on a reputation which we consider indestructible and childishly despise foreign talent. Shall

* In transmitting this translation of Pierre Staron's letter, Mr. Loomis, United States consul at St. Etienne, under date of April 19, 1893, says:

"I inclose a report on technical schools in Europe, which, I think, will be of use to those interested in technical education and manual training in the United States. It is brief, but comprehensive, and is valuable as a guide to the number of young Americans—increasing yearly—who come abroad to perfect themselves in certain branches of technical and manual training. This report is a condensed translation of some notes recently made in Switzerland and Germany by M. Pierre Staron, of St. Etienne, one of the most successful manufacturers in Europe, and his observations have the clearness, force, and practical bent of a competent trained expert in the manufacture of ribbons and other fabrics. There is much of an awakening in practical educational circles concerning the class of schools discussed in this report, and I think this a contribution worth translation and transmitting."

we wait until the evil becomes past remedy before we tear off the bandage which self-esteem has placed over our eyes?

A few notes taken in the course of a journey in Switzerland and Germany may have some effect in changing our ideas in this respect and showing just where we stand.

ZURICH.

If you desire while at Zurich to study the vital organizations of this industrial city, go to the intelligence office of the exchange; and there, besides other information, you will be furnished letters of introduction which will give you access to all the schools. At the Polytechnic School you will be received by the director, who will take you through the whole of that superb establishment. You will find there 800 students working at applied sciences under the direction of excellent professors—mathematics, letters, law, medicine, architecture, mining, railroads, etc. Further on is the School of Industrial Arts, where 190 young men make themselves familiar with all the secrets of designing and molding. These students are only received on the presentation of a certificate showing that they have finished their ordinary school studies.

But that which proves more than anything else the practical spirit of this country is, without doubt, the weaving school of Zurich. Guided by the director, you will be able to follow the silk through all its transformations, from the cocoon to the tissue ready for delivery, passing through the different processes of spinning, bleaching, dyeing, weaving, folding, and packing. Nothing is neglected; nothing is left to chance; each process has a special room; everywhere order and comfort.

The looms are thirty-six in number, all of different models. They are studied, examined, and analyzed in detail; and each student during the course of his studies is obliged to work each of these thirty-six looms and to weave on them 2 meters of ribbon, making thus thirty-six articles of varied designs. It is needless to insist on the benefit which accrues to the student from such a training, or to say that when he comes out of this school how capable he must be in his trade.

BASLE.

At Basle one is astonished at the splendor of the Exposition and Industrial Art School. This twofold institution occupies a palace, which must have cost 1,000,000 francs (\$193,000). It is self-supporting and has a revenue of 110,000 francs (\$21,230). The organization of the industrial school is marvelously perfect. The furniture is rich, the teaching apparatus considerable, ventilation is irreproachable, and the heating is on the most approved plan. The lighting is so arranged as to give light and necessary relief to the moldings, models, plasters, sketches, paintings, and sculptures, of which there is a wonderful variety. The students number at present 800, but increase each year. They are not received if over 16 years of age.

CREFELD.

The industrial school at Crefeld is 100 meters long by 80 broad. The architecture is simple, and the whole institution cost 2,500,000 francs (\$482,500). In spite of its gigantic proportions, not more than 180 students can be received, who must be over 11 years of age and have certificates of a good general education. The course of study lasts two years, and entry is granted by competitive examination.

The teaching staff is composed of eighteen professors, by whom the student is taught everything concerning the silk industry, from the cocoon boilers to the most complex loom. The establishment contains one hundred and seven looms of different models, producing an infinite variety of articles—ordinary cotton tissue, carpets, satin, silk, velvet and fancy ribbons, etc. Besides these will be found special rooms for finishing, dyeing, drying, etc. The museum of the institution is alone worth a visit. Among a thousand interesting things may be seen one of our old looms alongside of the latest American invention, which gives from three hundred to four hundred strokes per minute.

DUSSELDORF.

One of the wonders of Dusseldorf is the Industrial School of Arts, installed in the palace which was formerly the exposition. Engravers, modelers, sculptors, and painters come to it from all parts of the country to study under efficient masters. There is both a day and a night class. The day classes are attended by 150 students, while the night classes have an attendance of 600. The subjects taught are modeling in furniture, decorative painting, and sculpture..

WINTERTHUR.

The Industrial Art School of this town possesses a rich collection of machinery of every variety on reduced models. The cost of the collection exceeds 400,000 francs (\$77,200). Winterthur has, besides, an important school costing for its maintenance 150,000 francs (\$28,950) per year.

CONCLUSIONS.

And now, what conclusion must be drawn from this rapid sketch? It is simple enough—follow the example of our Swiss and German neighbors. Like them, let us sow with a generous hand, and, like them, we will reap abundantly. Let us act; let us help ourselves by putting our shoulders to the wheel. It is the only means whereby we may insure a prosperous future and escape commercial ruin, the danger which we foolishly pretend not to see.

A great deal is said these times about the protection of home manufactures. Time is wasted on fruitless lamentations on the decadence of our industries, the increasing difficulties of competition, the tendency of the foreigner to invade our markets, and no other palliative can be found for all these evils than that of establishing exorbitant customs duties. Certainly we must be protected; but the protection should be against our own apathy,

which threatens to ruin our ribbon industries. We seem to live in the delusion that we possess an eternal monopoly of the markets for our products, and we give our time to the discussion of political questions when we should be defending our reputation as manufacturers. If we continue in this state, we will assuredly be ruined. The ribbon industry of St. Etienne will fall if we do not borrow from our rivals without delay the most formidable weapon to be used in the commercial struggle—technical education.

What is already taught in the schools of our town is entirely too superficial and is quite inadequate to the requirements of an industrial center like St. Etienne. The town council and the chamber of commerce ought immediately to devise some plan for the opening of a school such as I have seen in Switzerland, where the young would receive a solid education from an industrial point of view. We have a great deal of lost time to make up, and the livelihood of thousands of families at St. Etienne depends on the action that may be taken.

ITALY.

The schools of Italy are divided into three grades—elementary, secondary, and superior. These grades are established by law, and the course of studies in each is fixed by a decree of the minister of public instruction. The organic law of November 13, 1859, concerning public instruction obliged the heads of families to cause their children between 6 and 12 years of age to be taught in the lower elementary course. As this law did not produce the desired results, Parliament enacted the law of July 15, 1877, which required that all children above 6 years of age, who had not been instructed in the elementary course either at home or in private schools should be sent to the public commercial schools. This obligation continues until the children are 9 years of age and may be prolonged until they are 10 if they do not show on examination a proficiency in the course. The course laid down for this grade includes a general idea of the duties of men and citizens, reading, writing, the elements of the Italian language, of arithmetic, of the metrical system, and of gymnastics.

The secondary schools are divided into two classes—the classical and the technical. The secondary classical course is taught in the gymnasiums and the lyceums. At the end of the third year the pupils obtain diplomas from the lower gymnasium which entitle them to enter on the fourth year. At the end of the fifth year they obtain the diploma of the superior gymnasium, which serves for admission to the lyceum. At the end of the third year in the lyceum the diploma which serves for admission to the university is given.

The secondary technical instruction is given in technical schools and institutes. These may be Government, commercial, provincial, incorporated, or private. The technical schools and institutes not under the immediate direction of the Government may be placed on the Government grade, or considered as of the same rank, when it is shown that they follow the rules and the courses of study established for the Government schools.

These schools and institutes were established in Piedmont and Liguria in 1859; in Sicily, Tuscany, and the Marches in 1860-'61; in Venetia in 1866; and in 1870 throughout all Italy. In 1877-'79 there were in Italy 409 technical schools, of which 143 were Government, 99 on the same grade, and 167 others. There were 29,638 pupils and attendants (those not inscribed in the regular course), of whom 14,899 were in the Government schools, 8,328 in those of the same grade, and 6,411 in those of a different grade. In the same year there were 70 technical institutes, of which 51 were governmental, 13 of the same grade, and 6 private. The

number of pupils enrolled was 5,688, of which 3,155 were for the studies of the two years' course, which all pupils must pursue, 766 were in the section of physico-mathematics, 740 in that of surveying, 22 in that of the science of agriculture, 923 in that of commerce and bookkeeping, and 82 in the industrial section.

Professional maritime instruction is given in technical institutes for the mercantile marine. These may be either governmental, provincial, commercial, incorporated, or private. They may be placed on the same grade as the Government institutes when they follow the rules and courses established for the latter.

The course established for the technical schools occupies three years and that for the technical institutes four years. The following studies constitute the course of the technical schools: (1) Penmanship; (2) theory and practice of accounts; (3) ornamental and geometric drawing; (4) geography; (5) French; (6) Italian grammar, composition, and literature; (7) arithmetic, plane and solid geometry, arithmetical theorems, and the use of logarithms; (8) the rights and duties of citizens as regards the family and the public, the rights guaranteed by the State, moral duties toward one's neighbors, and political rights and duties; (9) elements of natural philosophy, chemistry, and mineralogy; (10) elements of natural history, botany, and zoölogy; (11) ancient, oriental, and Grecian history; (12) Italian history; (13) gymnastics.

These courses have a double scope—first, a general cultivation, and, second, special instruction for certain employments. The courses in the technical institutes have the same objects in view as those of the technical schools, but, of course, they are more advanced. The instruction is divided into two courses of two years each. That for the first two years must be followed by all the pupils; that for the last two years pertains to the special profession for which the student seeks to prepare himself.

The technical institutes are divided into three sections—physico-mathematics, surveying, and the science of commerce and accounts. From the former section the pupil enters the university, where he can only take the physico-mathematic course. The studies pursued in this section are: (1) Chemistry (general and analytical); (2) ornamental drawing; (3) architectural drawing; (4) general physics; (5) advanced physics; (6) geography; (7) Italian literature; (8) French language; (9) English or German language; (10) mathematics; (11) general history; (12) natural history (zoölogy and botany, mineralogy and geology).

The studies in the section of surveying are: (1) The science of agriculture; (2) agricultural accounting; (3) construction; (4) drawing of constructions; (5) chemistry (general and analytical); (6) valuation and taxation; (7) general physics; (8) geography; (9) rural legislation; (10) Italian literature; (11) French; (12) mathematics; (13) general history; (14) natural history (zoölogy and botany, mineralogy and geology); (15) topography; (16) topographical drawing; (17) descriptive geometry.

The studies pursued in the section of commerce and accounts are : (1) Calligraphy ; (2) general chemistry ; (3) theory and science of accounts ; (4) civil rights ; (5) commercial and administrative rights ; (6) ornamental drawing ; (7) political economy ; (8) science of finance and statistics ; (9) general physics ; (10) geography ; (11) Italian literature ; (12) French ; (13) English or German ; (14) mathematics ; (15) natural history (zoölogy and botany, mineralogy and geology) ; (16) general history.

The course in the nautical technical institutes occupies five years, two of which are for the preparatory course. The following studies constitute the preparatory course : (1) Italian ; (2) descriptive geography ; (3) calligraphy ; (4) arithmetic ; (5) algebra ; (6) geometry ; (7) linear drawing.

There are three sections in the nautical course for the last three years, designed to fit the student as a captain, naval constructor, or naval engineer. The former section pursues the following studies : (1) Italian language and history ; (2) French or English ; (3) algebra ; (4) geometry ; (5) plane and spherical trigonometry ; (6) experimental physics and elementary mechanics ; (7) the rigging and management of vessels (sail and steam), maritime telegraphy ; (8) navigation ; (9) astronomical geography and nautical astronomy ; (10) the steam engine ; (11) meteorology applied to navigation ; (12) commercial geography ; (13) commercial and maritime law ; (14) ships' accounts.

The course of studies in the section of naval construction is as follows : (1) Italian language and history ; (2) French or English ; (3) algebra ; (4) geometry ; (5) plane trigonometry ; (6) descriptive geometry and drawing ; (7) experimental physics and elementary mechanics ; (8) applied mechanics ; (9) the steam engine ; (10) practical construction of vessels ; (11) materials used in naval construction ; (12) drafting vessels ; (13) theories of naval construction ; (14) commercial and maritime law.

The following studies constitute the course for naval engineers : (1) Italian language and history ; (2) French or English ; (3) algebra ; (4) geometry ; (5) plane trigonometry ; (6) descriptive geometry and drawing ; (7) experimental physics and elementary mechanics ; (8) advanced physics ; (9) applied mechanics ; (10) steam engines ; (11) qualities of materials, duties of an engineer ; (12) drawing of engines and naval machinery ; (13) practical work in the workshop.

The latest available statistics for all the technical schools and institutes and the nautical institutes are as follows for the year 1887-'88 :

The number of Government technical schools in Italy was 143 ; not Government, but of the same grade, 99 ; not Government, nor of the same grade, 167 ; total, 409. The number of professors was 3,028. The number of pupils and auditors in Government schools was 14,889 ; in schools of Government grade, 8,328 ; in all others, 6,411 ; total, 29,638. The number of pupils examined for graduation in Government schools was 1,992, of whom 1,625 passed ; in other schools, 2,458, of whom 1,623 passed ; total examined, 4,450 ; total passed, 3,240.

In the physico-mathematical, surveying, theory of agriculture, commercial and bookkeeping, and industrial sections the number of professors was 1,249; scholars, 5,688; auditors, 449; ordinary two-years' course, 3,155. The number of pupils in the physico-mathematical course was 766; surveying, 740; theory of agriculture, 22; commercial and bookkeeping, 923; industrial, 82. The total number of pupils examined was 1,485. The total number passed was: Physico-mathematical, 278; surveying, 293; theory of agriculture, 7; commercial and bookkeeping, 372; industrial, 22.

The number of marine mercantile institutes was 21. There were 171 professors, 700 scholars, and 73 auditors. The number of pupils in the sections was: Captains of large cruisers, 36; second-class naval constructors, 15; machinists of second class, 60; captains of long voyages, 242; first-class naval constructors, 29; first-class machinists, 318. The number examined for degrees was 278. The following passed: Captains of large cruisers, 17; second-class naval constructors, 1; second-class machinists, 16; captains of long voyages, 66; first-class naval constructors, 8; first-class machinists, 63.

In 1870-'71 there were 55 Government technical schools with 5,631 pupils and attendants. In 1880-'81 these had increased to 299 schools (governmental and others) with 20,838 pupils. In 1884-'85 there were 320 schools, of which 183 were governmental, 82 of the same grade, and 68 others, with 25,879 pupils; and in 1890-'91 there were 333 Government technical schools with 32,241 pupils, of whom 14,596 were in the first class, 10,317 in the second, and 7,328 in the third. Of these, 21,007 were in the Government schools, 7,830 in those of the same grade, and 3,404 in the other schools. Thus during the ten years ending 1890-'91 there was an increase of 34 technical schools and 11,403 pupils, the tendency being to discontinue the schools not under Government control and to establish Government schools in their stead.

The free schools are maintained entirely at the expense of the founders, and the courses are such as the managers select. When, however, private schools are placed upon the Government grade, they receive an annual subsidy from the State, which is not above two-fifths of the expenses for the principals and teachers. When the schools become governmental, they receive an allowance equal to two-fifths or one-half of the entire expense of all the employés.

By the most recent statistics there are in the Kingdom 178 gymnasiums under Government control and 78 on the same grade. There are therefore of the technical schools 5 governmental and 5 of the same grade more than of the gymnasiums. These numbers give 1 gymnasium for each 117,000 inhabitants and 1 technical school for each 113,200, or 1 gymnasium for each 13,700 children between 6 and 12 years of age and 1 technical school for each 13,207. Comparing the gymnasiums with the elementary schools, there will be found 1 gymnasium for each 176 elementary schools and 1 technical school (including the Government schools and those on the same

grade) for each 170 elementary schools. Comparing the number of pupils in each, we find that there are 123 for each Government gymnasium, 114 for each Government technical school, 90 for each gymnasium on the Government grade, 95 for each such technical school, 50 for each private gymnasium, and the same number for each private technical school.

In 83 of the 182 technical schools for males and in 33 of those placed on the Government grade there were enrolled female pupils, the total number being 1,498, besides 2 who took only a partial course. Thus far no inconvenience, either on the score of discipline or morals, has been reported by the school officers. Moreover, there are many who have reported that their schools have received a notable advantage both in discipline and progress by reason of the example in diligence set by the female pupils.

Besides their share for the salaries of principals and teachers, the communes are required to provide suitable buildings for the technical schools, to heat and light them, and also to furnish furniture, scientific materials, books for the school library, gymnastic apparatus, and supplies for the secretary's office.

The scholastic year consists of ten months, including the time devoted to examinations. The vacations are as follows: Every Sunday, the festivals of Christmas day, Epiphany, Ascension, Conception of the Virgin, Nativity of the Virgin, Assumption of the Virgin, Corpus Christi, St. Peter and St. Paul, All Saints, the patron saint of each diocese, and the first day of the year; also, the King's birthday, the day before and the six days after Christmas, Holy Thursday, and the three days after Carnival Sunday.

For the technical institutes the communes must provide: (1) The necessary buildings, the annual repairs, and the necessary alterations; (2) all the furniture and all the supplies, not scientific, necessary for the schools, collections, laboratories, library, and every other part of the institute, and for their preservation; (3) the necessary rooms and apparatus for gymnastic exercises, according to the laws and regulations; (4) all supplies for the secretary's office and all requisite record books and models; (5) the lighting and heating of the building and the necessary water; (6) whatever is necessary on the occasion of distributing prizes to the pupils; (7) living rooms for the *portier* and the custodian.

The province, besides its quota for salaries and indemnities, must provide: (1) For the entire compensation of the assistants, the employés, and, when required, of the machinists, of those who prepare machinery or specimens, and the draftsmen; (2) the library and scientific materials and their increase and preservation; (3) the apparatus necessary for the laboratories, the conductors of water and gas, and every other necessary apparatus for experiments for the practice of the pupils, and, in fact, everything not included under the name of furniture; (4) the farms, their management and cultivation; (5) the expenses of the annual experiments, of practical exercises within or without the institute, of scientific excursions, of articles for premiums, and, in fact, of all sundry expenses not otherwise provided for.

In the technical schools the pupils pay the following sums: Upon admission, 5 lire (96½ cents); annually, 10 lire (\$1.93); and upon graduation, 15 lire (\$2.89½). In the technical institutes the pupils pay the following sums: Upon admission, 40 lire (\$7.72); annually, 60 lire (\$11.58); and upon graduation, 75 lire (\$14.47½). Provision is made for the gratuitous education of poor and deserving pupils, both in the school and institutes.

AUGUSTUS O. BOURN,
Consul-General.

ROME, *April 10, 1893.*

A decorative art school, under the liberal patronage of the King of Italy, was established in Florence by royal decree on October 23, 1880. This is supported by an unlimited number of shares at 12 lire* each per year; voluntary donations; yearly tax of 10 lire per pupil; subsidies granted by the ministry of agriculture, industry, and commerce; the province, the municipality, the chamber of commerce of Florence, and other contributions. During 1891 the amount derived from shares was as follows: From the ministry of agriculture, 3,345 lire; from the province of Florence, 15,000 lire; from the city of Florence (inclusive of rental of building), 2,000 lire; from the chamber of commerce and arts, 3,100 lire; from various other corporations, 1,240 lire; from yearly tax on pupils at 10 lire each, 220 lire; and from various miscellaneous sources, 2,677 lire—amounting to a total sum of 27,582 lire (\$5,323).

The instruction imparted at this admirable school embraces architecture, sculpture, painting, wood-carving, artistic ironwork, and almost every species of decorative designing and art embellishment. The pupil, having fully completed the course of training and instruction and after successful examination, is granted a certificate *ad hoc* specifying his attendance and success.

The scholastic year extends from September 15 to July 15. The lessons are given every day, festivals and fête days excepted, between the hours of 8 a. m. and 12 m. from September until March and between 7 and 11 a. m. from April until July. In both terms the first three hours are compulsory and the fourth hour of instruction is optional.

Pupils are received from the age of 12 years, and none are allowed to repeat more than one each of the four years of study. The institution is at liberty to retain any or all of the work produced by each pupil.

The professional school of industrial decorative arts in Florence proposes to give artistic and technical knowledge which is adapted more to the development of Florence industries based upon the art of drawing and modeling. The school is therefore more especially intended to give a training to young men in these two accomplishments as may be applicable to any and all industrial and artistic decoration and designing, such as engraving, wood-carving,

* 1 lira = 20.3 cents.

adorning or cutting of gold and silver ware, stucco-designing, mosaic work, and artistic designing in iron and inlaid woodwork. The course of study comprises a term of four years—two for elementary or preparatory classes, one for special or intermediate training, and the remaining year for practical and advanced work.

The following table shows the classification of industrial pupils, according to their trade, for the year ended December 31, 1892:

Description.	Number.	Description.	Number.
Boys of undecided trade.....	8	Goldsmiths.....	6
Builders.....	4	Workers in mosaic and other inlaid work..	8
Cabinetmakers.....	3	Melters	2
Decorative painters.....	24	Workers and designers in plaster.....	2
Designers and formers.....	2	Sculptors.....	31
Designers for artistic industries.....	2	Upholsterers	3
Engravers on stone.....	4	Wood-carvers	21
Engravers of ivory and metals.....	5	Total	127
Engravers of wood.....	2		

JAMES VERNER LONG,
Consul.

FLORENCE, *January 31, 1893.*

NETHERLANDS.

It is significant of the high rating which in the Netherlands is accorded to technical training that schools in various localities are jealous of the right to be known and described as technical schools. It follows that the phrase "technical training" is here given a different definition, according as the authority questioned chances to be identified with a trade, marine, agricultural, or sewing school.

For the purposes of this report, however, and to the end that at least a bird's-eye view may be given of the broad field of technical training in the Netherlands, the technical school will be here understood to mean any school which aims, through manual training as a principal method, to equip its pupil to earn his living.

TRADE SCHOOL AT ROTTERDAM.

In the year 1869 a small number of public-spirited men in Rotterdam associated themselves for the organization and maintenance of a city trade school. The articles of association were approved by royal decree on October 1, 1869, and the school work began. The aim of the society was succinctly stated in the first paragraph of its articles of incorporation thus: "The purpose of this association is to train able mechanics." From the beginning the work of the school met popular and official approval, which has steadily augmented. At first the members of the city council, in common with other interested citizens, contributed as individuals to its maintenance. Now the city council officially evinces its approval by voting a generous annual subsidy. At present the work is further subsidized by the provincial states of southern Holland, and also by the department of the interior of the Netherlands Government.

Membership in the association (which at the beginning was almost the sole source of income, but which now yields less than one-twelfth of the total receipts) requires an annual minimum payment of \$4, the understanding being that for each \$2 above the minimum annually contributed the member so contributing shall have the right to place one boy in the school.

The government of the school is in the hands of a board of directors of fifteen, chosen by the city council from a nomination of thirty made by the association at each annual meeting. The board of directors elects from its own membership the president, vice-president, secretary, and treasurer, and also appoints the school manager and corps of teachers.

The trade-school course is of three years' duration. An applicant for admission must be not less than 12 and not more than 15 years of age. He

must prove by examination his ability to read and write well. He must have knowledge of the general rules of arithmetic and of ordinary and decimal fractions. The annual school money for each boy (\$2) is payable in advance. The school year begins April 1 and ends March 31; it is a school without vacations.

The estimated budget for the school year 1892-'93 is in detail as follows:

Receipts.	Amount.	Expenditures.	Amount.
Contribution of members.....	\$960	Salaries.....	\$9,275
City of Rotterdam (subsidy).....	12,000	Interest and sinking fund.....	1,894
Southern Holland (subsidy).....	800	Materials.....	760
School moneys.....	320	Tools.....	416
Miscellaneous.....	484	Maintenance of buildings.....	360
		Coal.....	216
		Supplies, stationery, etc.....	490
		Miscellaneous.....	1,153
Total.....	14,564	Total.....	14,564

During the year ended March 31, 1892 (later statistics for the year in full are not now obtainable), the pupils numbered 218, divided by trades as follows: Machinists, 108; carpenters, 55; painters, 19; cabinetmakers, 14; blacksmiths, 7; coppersmiths, 4; model-makers, metal-turners, piano-makers, and instrument-makers, 2 each; and plumber, saddler, and wagon-maker, 1 each.

The attendance in recent years, it should be noted, has been limited, not by the number of applicants, but by the school's capacity. Recent enlargement of the school building and workshops (the "plant" now represents an investment of \$80,000) has given room for 300 pupils, and on the opening day of the current school year—April 1—300 pupils were enrolled.

Theoretical training occupies the morning hours—from 8 to 12 o'clock—and includes instruction in Dutch grammar, arithmetic, drawing, geography, mathematics, and writing. The hours for practical training in workshops connected with the school are from 2 to 7 p. m. in the summer and from 2 to 5:30 p. m. in the winter months.

It is here to be stated that, while the theoretical instruction, as shown in the paragraph preceding, is a continuation of the teaching of the lower-grade public schools, whence the pupils have come, it is yet modified in all ways possible to accord with the fact that the boys are to become mechanics. Examples and illustrations—not abstract, as in average school text-books, but drawn from the vocation which is to engage the boy's adult years—are employed in theoretical class exercise. Especial attention is given to drawing. Beginning with the making of rectilinear lines and curves, the boys are speedily advanced to the simpler details of construction, and to measured drawings from models and from actual work. In the senior class pupils are taught mechanical projection and perspective as applied to architectural details.

The hours per week devoted to theoretical training and the division of time according to branches taught are shown in the following table:

Branches.	Classes.							
	1a.	1b.	1c.	1d.	2a.	2b.	3a.	3b.
	Hours.	Hours.	Hours.	Hours.	Hours.	Hours.	Hours.	Hours.
Construction drawing.....					8	8	8	10
Architectural drawing.....	8	8	8	8				
Ornamental drawing.....	6	6	6	6	4	7	1	3
Ornamental and architectural drawing.....	2	2	2	2				
Reading.....	1	1	1	1				
Grammar (Dutch).....	1	1	1	1				
Writing.....	1	1	1	1	1	1		
Algebra.....					2	2	1	
Geometry.....					2	2		
Physics and mechanics.....	1	1	1	1	1	1	1	
Mechanics, steam.....					3		3	
Knowledge of material.....							1	1
Arithmetic.....	3	3	3	3	2	2	1	1
Mental.....	1	1	1	1	1	1		
Total.....	24	24	24	24	24	24	16	15

The hours per week given to practical training in the workshops aggregate, for the summer months, thirty hours; for the winter months, twenty-one hours.

In addition to the manager, or principal, of the Rotterdam school, 21 teachers are employed, 13 of whom are practical mechanics.

Upon completion of his three years' course of study, deportment and class standing having been good, the boy is discharged with a certificate which has the practical value, so favorable is the reputation of the school, of insuring to him immediate employment. In all trades represented at the school the graduates are sought after by employers, and, as yet, the demand in the Netherlands for graduates of trade schools is in advance of the supply.

While some general reflections and suggestions, applicable alike to the Rotterdam trade school and to other trade and technical schools, are to be reserved for convenience to the conclusion of this report, it is appropriate to state here two suggestive and significant features which investigation at the Rotterdam school has revealed. The first is that employers agree in testifying that the work of the boy trained three years in the trade school has a higher marketable value than the work of the boy who, deprived of the school privilege, has been compelled through poverty to learn his trade in the shop. One is an all-round mechanic who has learned the "why" of things; the other a drudge, without resource or adaptiveness, whose work is, and always will be, purely perfunctory. The second suggestion is afforded in the rule of the Rotterdam school (and also of most other trade schools of the Netherlands in late years) that all practice work shall be done upon objects of normal size and for actual use. Real windows and doors and real tin pans and pails are made and sold and used, and this fact contrib-

utes much to intensify the interest of the juvenile workmen in their work. Within the last six months an extension to the school in Rotterdam, costing perhaps \$25,000, has been built, and every stroke of work for the interior finish—sash and door making, floor-laying, stair-building, wainscoting, painting, tinning, plumbing, etc.—has been done by the pupils of the school.

TRADE SCHOOL AT BREDA.

Unlike the Rotterdam school, which is maintained for the greater part at public expense, the trade school at Breda is endowed. Thirteen years ago there died at Breda Dr. Van Cooth, who in life had been a consistent champion of manual training in the schools. By his will \$106,000 of his estate were given for the establishment at Breda of a trade school for boys, the building for which, it was stipulated, should cost not more than \$12,000; the remainder of the legacy to be invested and its earnings devoted exclusively to the payment of the salaries and actual running expenses of the school. The building fund was increased by local contributions, and in 1886 a model structure was completed and the school opened upon an annual interest income of \$4,500. This sum has been sufficient thus far for the maintenance of the work without municipal or governmental aid.

With a population of only 22,000, Breda sends regularly not less than 120 pupils to the Van Cooth school, thus evidencing the popular faith in the trade-school method of education.

By far the larger number of pupils at Breda are trained as machinists, following there, as at Rotterdam, a three years' course. Upon graduation most of them enter the workshops of the Netherlands State Railway, which recruits its force of wage-earning machinists very largely from the Breda school.

OTHER TRADE SCHOOLS.

The two schools above reported have been selected as representative from a total of eighteen exclusively trade schools at present maintained in the Netherlands. All have features in common with the Rotterdam and Breda schools, and all have also individual and distinctive features suggestive as "side lights" upon the general subject of technical training, but omitted from this report in the interest of brevity.

The eighteen trade schools referred to are located as follows: Two at Amsterdam (one training its pupils solely as blacksmiths and machinists), and one each at Leeuwarden, Groningen, Zwolle, Deventer, Arnheim, Utrecht, Haarlem, Rotterdam, the Hague, Leiden, Dordrecht, Middelburg, Goes, Zierikzee, Breda, and Bois-le-Duc. It is indicative of the widespread acceptance in the Netherlands of the trade-school idea that the cities above named maintaining trade schools are distributed over eight of the eleven provinces of the country.

All these schools were established and at first maintained by private enterprise, while all, save only the school at Breda, are now sustained in

whole or in part by municipal, provincial, or governmental subsidy—a striking testimony of the faith of the people and the confidence of the Government in the correctness of the principle of technical training.

In the year 1890 a director of the school at Groningen, then in its infancy, addressed a series of questions to eleven leading trade schools in the Netherlands, and from the budget of answers he received a compilation has been made showing the then number of pupils and teachers and the amount of annual subsidy for each school as follows:

School.	Students.	Teachers.	Subsidy.
	<i>Number.</i>	<i>Number.</i>	
Amsterdam :			
Machinists.....	77	10	\$2,200
General.....	97	20	7,200
Arnhem.....	144	7	4,680
Breda.....	86	5	.....
Bois-le-Duc.....	20	2	(*)
The Hague.....	122	12	4,000
Leeuwaarden.....	86	8	2,400
Leiden.....	79	6	2,000
Middelburg.....	22	3	610
Rotterdam.....	180	22	10,400
Utrecht.....	97	5	2,400

* Wholly for account of municipality.

The above, it is to be remembered, is for the school year 1889, since which time the number of trade schools and the attendance thereat have shown extraordinary increase. Rotterdam, for example, above reported as having 180 pupils, has now 300, and, were statistics of other schools obtainable up to date, a corresponding increase throughout the Netherlands would be revealed.

SCHOOL FOR MARINE ENGINEERS.

There is in the Netherlands one school only engaged in the work of educating engineers exclusively for sea duty. It is located at Amsterdam, and was established in 1878 at the instance and under the patronage of steamship-owners purely as a matter of business economy. Incompetent engineers upon their steamers had so often inflicted damage and entailed heavy losses that the prudent Dutch owners said: "We will ourselves see to the training of our engineers." Thus the school was founded.

Its course of instruction extends over two years. The curriculum includes arithmetic, geometry, algebra, mechanics, and physics; the Dutch, English, and German languages; theory of the steam engine, theory of perspective and projection, mechanical drawing, and practical blacksmith and machine-shop work.

Applicants for admission to the school must be above 15 years of age. They must pass entrance examinations in reading, writing, arithmetic, the first elements of geometry and algebra, and in the Dutch, English, and German languages. Examinations are conducted by a committee of the board of directors, and have regard to the physical and moral, not less than to the

mental, fitness of the boy. The pupils dress in uniform and live at the school, and the present average attendance is 90. The yearly tuition, payable quarterly in advance, is \$40, and the yearly cost for board and lodging is \$80.

The first year of practice work is blacksmithing exclusively and the second the work of the machine shop proper—lathe turning, steam fitting, etc. The division of theoretical and practical work per week is as follows:

Subject.	First year.	Second year.
	<i>Hours.</i>	<i>Hours.</i>
Arithmetic	2	
Algebra	2	1
Geometry	2	4
Physics	2	2
Mechanics	2	2
Steam	3	4
Knowledge of materials		2
Dutch grammar	1	1
English and German languages	4	4
Mechanical drawing	6	9
Drawing	4	
Practical work in the shops	16	16
Total	44	45

The school is admirably and expensively equipped with machinery, including a modern, beautiful, and workable steam engine, which the boys dissect and rebuild again and again for purposes of study.

Upon completion of his two years in the school, the standard of the pupil having been satisfactory, he is provided, through the influence of the school management, with a working berth on shipboard or in the engine room of a local factory, where he is required to spend one year. Thereafter he returns to the school, is subjected to final examinations, and, if successful, is given a diploma certifying efficiency as an engineer and is discharged.

During the fifteen years of the school's existence there have been 1,021 applicants for admission, 672 of whom passed the entrance examinations. Of this latter number, 442 completed the school course of two years, 380 were placed for the third year at practical work, and 264 returned to the school, took final examinations, and were given diplomas.

Like the trade schools previously mentioned, the school for engineers at Amsterdam was in its beginning a purely private enterprise; but it has recommended itself by its accomplished work, with the result that it now has public subsidies, voluntarily voted and gradually increased, which for the current year aggregate \$5,200, as follows: From the colonial department of the General Government, \$2,400; from the department of the interior, \$2,000; from the provincial states of northern Holland, \$800. Its additional yearly resources are: From tuition and board of pupils, \$10,000; from membership fees, \$1,075; total income from all sources, \$16,275.

MERCHANT-MARINE SERVICE TRAINING.

Kindred in its aim to the training school for marine engineers is the old school, renowned in the Netherlands, and known as the training school for the merchant marine. It also is located at Amsterdam, and was founded in 1785, the fund employed for the purpose being a balance remaining from popular subscriptions given in aid of the dependents of gallant Dutch marines who died fighting the English in the battle of Doggersbank, A. D. 1781.

The school is maintained by, and is under the control of, a board described as "directors of the fund for the encouragement of sea service," and its exclusive work is to train officers for the Dutch marine.

Admission examinations are open to boys between the ages of 14 and 16 years, and presuppose a thorough grounding in all primary and grade school studies. The course proper is of three years' duration, upon satisfactory completion of which the pupil is sent to sea by merchant sailing vessel or steamer for at least one year. Thereafter he returns to the school for added studies and review; then presents himself before a Government board for examination as third mate, passing which examination he is granted his diploma and discharged from the school.

This school is not publicly subsidized in any form. Its pupils, at present numbering 90, are boarders in the school and pay annually for tuition and board \$80. The total expense per year per pupil is \$240, leaving a very considerable deficit to be supplied (as it is invariably and without trouble supplied) from the patriotic subscription fund.

Aside from the commander, 2 chief officers, and 2 boatswains who reside at the school, there are employed 6 teachers of French, English, German, mathematics, physics, theory of navigation, and gymnastics, respectively.

In the first century of its existence—to 1885—this school graduated 2,854 students.

NAUTICAL SCHOOLS.

Not all boys with inclination for the sea are able to avail themselves of the comparatively expensive preliminary training supplied by the marine-service school at Amsterdam. For such as are unable a cheaper course is offered—cheaper in cost and cheaper also in quality, for it dispenses wholly with special school training. Provided a young man has the rudiments of education and has spent at least one year at sea after having attained the rating of "sailor," he may, on the same terms as a student from the Amsterdam school, present himself before a Government board for examination as third mate. The theory of navigation he has not learned as well as the pupil from that school; but his superior practical experience is deemed to serve as an offset, and no discrimination is made.

And now, assuming that examinations have been successfully passed, and that the two boys of different preliminary training have been articulated as

third mates, they are henceforth on an even footing as members of the nautical school proper, of which there are in the Netherlands 10, situated, respectively, at Scheveningen, Rotterdam, Amsterdam, Den Helder, Ter-schelling, Vlieland, Harlingen, Schiermonnikoog, Groningen, and Delfryl. These schools are maintained, for the most part, by municipal subsidy, though 5 are given small yearly grants by the General Government, and the cost to the pupil is nominal.

The third mate, who is the "freshman" of the nautical school, having first taken six weeks of class instruction, is next required to spend at least two years at sea, serving as third mate; after which he returns for review, going thence before the Government board—composed chiefly of retired sea captains—for examination as second mate. That examination passed, he returns to the nautical school for two or four months' training in theory, and then goes to sea again for two years, this time as second mate; at the end of which service he returns to the school for final review, presents himself before the examining board for a third time, and, if successful, is commissioned as first mate or chief officer. Having now complied with the requirements of the Netherlands law, he is eligible to appointment as captain.

At each one of the three Government examinations (between the first and the third at least four years intervening), it is of interest to note, the candidate is subjected to the most rigid tests for color blindness. The fact that a man is in charge of a steamship under the Dutch flag is sufficient evidence that he is qualified.

Ten nautical-school examinations yearly are conducted by the Government board and are held either at Rotterdam or Amsterdam. One such examination of a class of 45, of which I have a report, gave results as follows:

Rank.	Passed.	Rejected.	
		Theory.	Practice.
	Number.	Number.	Number.
First mate:			
Sailing vessel.....	1		
Steamer.....	1	1	
Second mate:			
Sailing vessel.....	3		
Steamer.....	4		
Additional steamer.....	2		1
Third mate:			
Sailing vessel.....	6	8	2
Steamer.....	9	1	
Additional steamer.....	6		
Total.....	32	10	3

A feature of the nautical school at Rotterdam is a special two years' course of consecutive class study for young men—usually the sons of good families—who purpose to follow the sea, but wish to avoid the association of the forecastle. After graduation these pupils go to sea as mate students (*stuur-*

man's leerling), and thus manage to become officers without having been before the mast.

In addition to the marine schools thus far noted as representative, there are at ports throughout the Netherlands other and smaller schools, more numerous than can be here named, which train boys for every branch of sea service, the great ports having private floating ship-rigged schools, where ordinary seamen are trained, and the fishing villages other schools, where skip-pers and crews of future fishing fleets are taught.

TECHNICAL TRAINING AND NATIONAL INDUSTRIES.

It is as well here as elsewhere to especially note what this report throughout tends unavoidably to suggest, that in the Netherlands the facilities afforded for acquiring efficiency in a given vocation have a relation to the importance of that vocation as a national employment. For example: The Netherlands, almost literally born out of the sea and for a thousand years a nation of sailors, make training for sea service a principal educational feature, because service upon the sea is a principal industrial feature. Their educational method is, to a very large extent, not only technical, but it is the technical method applied with especial and intelligent reference to the national industries.

TECHNICAL SCHOOLS FOR GIRLS.

The first industrial or technical training school for girls in the Netherlands was established at Amsterdam in 1865. It was an experimental enterprise of modest beginnings; but gradually its work proved its worth, and now similar schools in addition to the one at Amsterdam (which has grown to be a great institution) are maintained at Arnheim, the Hague, and Rotterdam.

The school at Rotterdam, here used in illustration of this class of schools, was opened in 1885. Its aim is to educate girls for manual employments inside or outside the household. A condition of admission is that the applicant shall have had the instruction of the lower-grade public schools, which is continued as one feature of the industrial-school work throughout the three years comprising the course. The other and more distinctive features are: Instruction in drawing, bookkeeping; useful hand work, as sewing, mending, darning, knitting, and machine sewing; fancy needlework and embroidery; ladies' tailoring, including measurement, cutting, and fitting; ironing; and, during the senior year, instruction in the French language. Only in the last year of the course is the teaching specialized according to the vocation which the pupil is to follow, the training of the first two years being for all pupils the same.

The school tuition (often remitted in the case of girls whose parents are unable to pay) is \$8 per year, and the hours of study are from 8:30 to 12:30 and from 2 to 4:30 throughout the week, save Saturday afternoon. The teaching corps numbers 12 persons, whose annual salaries aggregate \$3,300; and 2 only of the 12 are employed in theoretical instruction, the remaining 10 being technical teachers.

This school, like most of those with which the present report deals, is publicly subsidized, to the extent at least of indicating a public approval of the work it is doing. It gets \$800 yearly from the Netherlands Government, \$800 from the province of South Holland, and \$2,000 from the municipality of Rotterdam, besides an average of \$800 per year in popular subscriptions. It occupies new buildings, which have been completed within the past year at a total cost of \$32,000, and in the erection of which the association has incurred a debt for almost the entire sum, indicating thus the faith of the founders in the permanency of the demand for this particular kind of instruction.

The number of hours of instruction per week in the respective branches of the school work is as follows:

Industrial work or needlework.—Hand sewing, drawing, and knitting, 15 hours in class 1, 16 hours in class 2, and 16½ hours in class 3; machine sewing upon linen, 23 hours in class 4; ladies' tailoring, linen branch and fancy needlework, 25 hours in class 5 and 30 hours in class 6.

Drawing.—Hand and rectilinear drawing, 11 hours in class 1, 12 hours in class 2, and 10½ hours in class 3; hand and rectilinear drawing and beginning of projection, 8½ hours in class 4; projection of models which are executed in the industrial classes, 6½ hours in class 5 and 4½ hours in class 6.

Theoretical instruction.—Arithmetic, grammar, geography, and mathematics, 8½ hours in class 1, 8½ hours in class 2, 9½ hours in class 3, and 5 hours in class 4; arithmetic, grammar, geography, and mathematics, with French and double-entry bookkeeping, 8 hours in class 5 and 5 hours in class 6.

Instruction in ironing is given daily, though outside the regular school hours, and during a brief time each day all the pupils are drilled in gymnastics. Connected with the school, it may also here be stated, is a normal class whose function is to prepare young women for Government examinations in different branches of women's work, in preparation for their employment as teachers of hand work in the lower-grade public schools; for throughout the Netherlands the idea of technical training has grown until it is, to some extent, a feature of all primary public-school instruction.

It is significant of the efficiency of the work performed by this technical school for girls at Rotterdam, and is indicative also of the favor in which the school is held, that its regular attendance of pupils has increased from 40 in 1885 to 209 in the present year.

SCHOOL OF INDUSTRY AND COMMERCE.

Enschede, in the province of Overijssel, is the center of the cotton-textile industry of the Netherlands, and is also the home of the Netherlands School for Industry and Commerce, which has as a principal adjunct the well-known Enschede weaving school. It is with this latter feature of the work that this report will chiefly deal.

The first, or A, course of the school at Enschede is of three years' duration, and corresponds with the ordinary high-school course. It is made a necessary preliminary to admission into the B course of one year, expressly for commercial training, or into the C course of two years, expressly for technical training. The C is the weaving-school course, and its primary purpose is the scientific training of boys who are to succeed their fathers as manufacturers of textile fabrics or as superintendents of factories. In a flourishing evening school, and as an incident of its work in chief, the Enschede institute trains journeymen weavers; but its real function is of broader scope, as is implied by the fact already stated, that a high-school diploma is the prerequisite to admission.

A general statement of the range of instruction in the A, B, and C courses of the school is conveyed in the following table:

Branches.	Number of hours per week.						Total.
	A.			B.	C.		
	Class 1.	Class 2.	Class 3.		Class 1.	Class 2.	
Grammar.....	5	3	3				11
French	6	4	3	4			17
English.....		6	4	4			14
German.....	5	4	3	4			16
Geography.....	3	2	2	1			8
History.....	3	3	2				8
Political economy.....			1	2			3
Arithmetic.....	3	2	1				6
Algebra.....	2	2	2				6
Geometry.....	2	3	3	2			8
Physics.....			3	3	1	1	8
Chemistry :							
Theoretical.....			2	2	3		7
Practical.....				2	5	4	11
Botany	1	1	1				3
Bookkeeping				6			6
Mechanics.....					3	2	5
Wood and metal turning.....					4		4
Method of examination as to quality and quantity					2		2
Chemical technology.....						4	4
Practical dyeing and bleaching.....						5	5
Mechanical technology of printing.....						2	2
Knowledge of spinning fibers.....					1		1
Spinning.....					3	3	6
Theory of hand weaving.....					2		2
Decomposition.....					6	6	12
Materials					1		1
Calculation						1	1
Composition					1	1	2
Practical hand weaving.....					6		6
Preparative machinery of mechanical weaving						1	1
Theory of mechanical weaving.....						4	4
Practical mechanical weaving.....						6	6
Drawing.....	2	2	2	2	4	2	14
Total.....	32	32	32	32	42	42	212

Gymnastics are also regularly taught, though outside the ordinary school hours.

The work of the weaving school, as shown in the schedule above (C, 1 and 2), is almost wholly confined to practical weaving, dyeing, and bleaching and related employments. The school is equipped with all needed machinery, instruments, models, engravings, charts, etc., in evidence whereof I cite: For the practice of the first year (course C) are regularly employed five looms for cotton tissues, two for linen tissues, three for woollen tissues, and two for mixed tissues, each differing from every other in type and manufacture, with the view of familiarizing the pupil with all sorts of weaving machinery. For the first year's instruction (course C) are also employed a cap-winding machine, with large and small canting wheels, a machine for model-card cutting, knitting machines for cotton and woollen and mixed tissues, respectively, and for the manufacture of underwear. In the second or senior year department of course C are other machines, more elaborate and more numerous than those for the junior year, and in quite as great variety; while the laboratory is in its equipment admirable and complete.

The school year at Enschede begins on the first Tuesday of September and ends July 16, with a Christmas vacation of two weeks and an Easter vacation of ten days. The corps of instructors and assistants numbers twenty, several of whom are practical mechanics.

The annual school fee for course A and B, respectively, is \$24, and for course C \$60. In the case of a pupil unable to pay full tuition, it is in the discretion of the burgomaster of Enschede to remit one-half the charge.

The attendance of pupils for the current school year is 82, and the annual total expense of the school is \$14,000, of which \$7,600 is supplied by the Netherlands Government, \$4,000 by the city of Enschede, and \$2,400 of school moneys.

The evening classes above referred to as being connected with the Enschede school are taught by eight of the day-school teachers and have full use of all the day-school appliances—machinery, laboratory, etc. They are attended by working boys employed in the factories of Enschede, and their teaching is designed to equip the pupils as first-class journeymen weavers. The course of instruction includes Dutch grammar, arithmetic, mechanics, bleaching, dyeing, weaving and decomposition, and drawing.

The evening school is open each year from October 1 to April 1, and the thoroughness of training it imparts is implied in the fact that the course is of six years' (thirty-six school months) duration. The tuition of the school is nominal, and the present average attendance is 90.

The Enschede school has the honor of being the pioneer high school of the Netherlands. It was established in 1862 as a private enterprise, and was deemed an educational experiment. Government aid in the form of an annual subsidy gave ultimate success to the experiment, and was construed to carry with it a recognition of the Government obligation to aid advanced

public education. Therefore, public high schools in other cities, substantially helped though not supported by the General Government, quickly followed and are now an established educational feature.

STATE AGRICULTURAL SCHOOL.

After various experiments extending over a period of thirty-six years, and attended with only indifferent success, there was established at Wageningen, province of Gelderland, in 1876, a Government agricultural school, to be maintained solely at the national expense. In 1880 a farm was purchased in close proximity to the school, fully equipped with agricultural implements (the most of which, by the way, are American), and supplied with all necessary farm buildings and appliances.

Like the weaving school at Enschede, this agricultural school also provides two distinct and differing courses of instruction: course A, of three years' duration for the sons of small farmers, which course is severely practical; and course B, also of three years, for boys of higher social grade who are destined to become owners of estates or superintendents of plantations in the colonies.

Training in the ordinary branches of the lower public schools qualifies for admission to course A; but the equivalent of the high-school course (a flourishing and efficient high school being a part of this agricultural school) is the required condition of admission to course B.

In the lower grade the course and hours per week of study for the three years are shown in the following table:

Subjects.	Number of hours per week.		
	First class.	Second class.	Third class.
Mathematics and surveying of land.....	5	5	2
Physics.....	1	2	2
Chemistry.....		3	3
Botany.....	2	2	2
Zoölogy.....	2	2	2
Political economy.....			2
Geography.....	4	3	
History.....	2		
Dutch grammar.....	5	3	1
German.....	4	2	2
English or French.....	3	2	1
Hand and line drawing.....	2	2	2
Gymnastics.....	2	2	2
Agriculture.....	2	6	12
Wood culture.....			1
Total.....	32	34	34

In the advanced, or B, course the work is of different grade, as follows :

Subjects.	Number of hours per week.		
	First class.	Second class.	Third class.
Mathematics and land-surveying.....	5	1	.....
Machinery.....	4	.....	.....
Physics.....	4½	2	.....
Chemistry.....	6	6	.....
Mineralogy and geology.....	.....	2	.....
Botany.....	2½	2	4
Anatomy and physiology of domestic animals.....	2	2	2
Care of injured animals.....	1	1	1
Political economy.....	2	1	2
Line drawing.....	2	2	2
Agriculture.....	2	.....	.....
Agricultural chemistry.....	.....	3	4
Agricultural technology.....	.....	.....	1
Plant culture.....	.....	1	2
Cattle-breeding.....	.....	1	2
Dairy.....	.....	1	1
Sickness and cure of domestic animals.....	.....	1	2
Agricultural machinery.....	.....	2	2
Agricultural bookkeeping.....	.....	1	2
Treatment and improvement of land.....	.....	1	2
Farm management.....	.....	1	2
Wood culture.....	1	1	1
Total.....	32	32	33

The students of the third class in the A course and the first class in the B course may also follow as an elective study the industry of bee culture.

In addition to the course above, it is required of students in the B grade that they attend fortnightly lectures on "colonial agriculture," which are delivered at the school by an ex-chief inspector of cultivation in the Netherlands East India—indicating again, as in the case of the sea-service training, the intelligent painstaking of the Netherlands Government closely to adapt the educational work of the country to its industrial and commercial needs.

And now, as indicating even better than the above-given courses of study the rigidly practical character of the instruction imparted, this report reverts to the experimental farm, adjunct to the agricultural school. Its buildings, in manner of construction and in the uses to which they are put, are intelligently planned object lessons. How to house and how to care for all farm animals and farm machinery are practically and thoroughly taught. There are threshing floors, mows for hay and grain, a dairy for all experimental and practice work in butter and cheese making, etc. The breeding and cross-breeding of animals are also practically taught; and, as an illustration of the diversity of instruction in grain and farm-produce growing, it may be stated that during last year, in one trial field $2\frac{1}{2}$ acres in extent, divided into plats of 40 square feet, there were produced by the pupils the following: Of winter wheat, 40 varieties; spring wheat, 8 varie-

ties; winter barley, 3; summer barley, 12; oats, 44; winter rye, 8; summer rye, 2; buckwheat, 2; peas, 12; beans, 15; potatoes, 70; turnips, 16; grass, 30; clover, 6; flax, 4; hemp, 3; madder, 1; sugar beets, 8; chicory, 2; hops, 3; mustard and other spicy seeds, 7; tobacco, 2.

The annual school fee at Wageningen is \$16, and for the high-school department, courses A and B, the same. The agricultural students now in attendance at the school number 122.

POLYTECHNIC SCHOOL AT DELFT.

The school at Delft is now briefly referred to, not as coming strictly within the range of the subject assigned to this report, but rather as a passing tribute to one of the deservedly famous educational features of the Netherlands. The school, established in 1864, is of the university grade and technically trains manufacturers (technologists is the better word), architects, and civil, naval, mechanical, and mining engineers. Not a few of its graduates occupy responsible professional positions in the United States.

The condition of admission to the Delft school is that the applicant shall have taken the higher school course of the Netherlands of five years' duration. The average entrance age, therefore, is about 20 years, and the course is four years.

By express provision of the law of 1863, under which the school was organized, the courses of study are elective to the extent that, while the pupil may not obtain full diploma except upon successful completion of the full course, he is at liberty to attend special lectures, to select special branches, and to have special examinations covering such branches. The engineer's diploma and the technologist's diploma, however, which are the coveted prizes, are obtainable only after two rigid examinations—one at the end of two years, covering theoretical instruction, and one at the end of another two years, devoted to purely technical training.

The attitude of the Netherlands Government toward the school has been consistently generous. Its buildings are extensive, and its collections of models and drawings, instruments and parts of machinery, its museums of raw and manufactured products of every substance, and its cabinets of minerals and other appurtenances of technical training are elaborate and valuable.

The school has a present attendance of 300 pupils, with accommodations for a much larger number; and, in addition to a librarian and clerk, there are fifteen professors, nine teachers, and eight tutors giving instruction as follows:

Professors.—Three in theoretical and practical mathematics, one in land-surveying, one in practical physics, two in chemistry, one in mineralogy, geology, and mining engineering, one in mechanical technology and making of models, etc., one in architecture, two in hydraulics, one in mechanics, one in political economy, and one in naval architecture.

Teachers.—One in mathematics, one in practical physics, one in chemical technology, one in architecture, one in knowledge of building material

(technology), one in ornamental drawing, one in modeling, one in mechanics, and one in free-hand drawing.

Tutors.—One in physics, two in chemistry, two in architecture, one in hydraulic engineering, and one in mechanical engineering.

Appropriations for the maintenance of the school, as shown by the Government annual budget for 1893, are as follows: Salaries to professors, teachers, assistants, and all those employed at the school, \$48,826.66; for means of instruction, fire, and light, \$12,800; maintenance and repair of buildings, \$2,450; new buildings to be added during the year, \$40,400; placing steam heating, \$10,800; total, \$115,276.66.

NECESSARY OMISSIONS.

There are still phases of technical-school work in the Netherlands which have not been treated and can not here be touched, owing to the undue length to which this report has grown. A dairy school at Bolsward, in Friesland, the butter and cheese making province of the Netherlands; an interesting weaving school at Tilburg in North Brabant, the center of woolen manufactures; the development of "slöyd" (Scandinavian for house industry), which has of late won to itself much attention in educational circles especially of the larger cities, and which seems destined to obtain a place in the system of public instruction; the evolution of the kindergarten and the sewing and knitting classes as accepted parts of primary public-school work; the Government schools of navigation and of naval and military training—these and other features also are worthy of report at length for the testimony all supply of a popular trend in the Netherlands toward practical methods of school-teaching.

Attempt has been made only to select and report phases of work which are fairly representative, and which must be understood merely as illustrations of an educational development of which every city and almost every village of the Netherlands furnishes example.

TECHNICAL TRAINING OF RECENT ORIGIN.

This report now calls attention to two facts implied, rather than stated, in the foregoing compilation, as follows:

A glance at the dates of organization of the various schools enumerated shows systematic technical training in the Netherlands to be of recent growth. Excepting the Amsterdam training school for the merchant marine (whose establishment was due to an unusual circumstance), all the technical schools covered by this report have been organized within thirty years—most of them within a much shorter period. In other words, from having no place whatever, technical training has within thirty years come to have a principal place in the educational scheme of the country. The acceptance and approval of the idea, it should be noted also, is not local nor due to any local cause or special influence, but is as widespread as the Netherlands public schools.

In illustration, I here repeat what has been already written, that the trade schools alone to which reference has been made represent eight of the total eleven Dutch provinces.

THE SCHOOL TO MAKE THE MECHANIC.

Another implied fact is that the purpose of each school regarding its pupils is specific, not general.

The manual-school work in favor with many devoted and experienced teachers in the United States, which aims only to impart to the pupil a general manual facility and to develop a general adaptiveness, without direct reference to his ultimate specific vocation, is here virtually unknown. The founders of the engineers' school at Amsterdam say: "Our school is to train engineers to run the engines on our steamers." The charter of the Rotterdam Trade School explicitly states: "The purpose of this association is to train able mechanics."

Whether such limitation of aim is wise, is a question not at all within the province of this report. It is here brought forward for whatever significance or suggestiveness it may chance to possess as a fact.

A unique and an entirely European (or class) criticism of some of the Dutch technical schools is made by Dutchmen to the effect that the schools educate too much and too well. "We seek," said one school manager, "to make good wage-earning mechanics who shall be competent to their tasks, but at the same time content to remain permanently in the rank and station of a wage-earning mechanic. Yet we find our pupils ambitious to reach higher, and, by virtue of their excellent training, competent to reach higher." Growing animated, this man continued: "Why, one of the boys graduated by us, who should have been satisfied to do good work at his bench, went to New York a few years ago and I just now hear he has been successful against sharp competition in winning first prize for the best plan of a gigantic railway bridge in the United States." The teacher concluded: "It is not for this our trade-school boys are trained, and we make a social and an industrial mistake in thus overtraining."

I doubted, in view of his illustration, whether Americans would wholly agree with him.

Seeking to discover the effect of these mechanic-making schools upon the industrial situation of the Netherlands, I have talked both with the men who employ labor and the men who work for wages. Next to the educators themselves, employers of skilled labor are the most pronounced advocates of trade schools, which do not cheapen, as these men testify, but only improve the grade of skilled labor; making it not merely more profitable to the employer, but more marketable. The old adage that "there is room at the top" is proved anew in the experience of this country thus far with its trade-school graduates.

Strangely enough, as it will appear to Americans, there is not, on the part of journeymen mechanics, any serious protest against an increase of

skilled workers, for two reasons: (1) there is not in the Netherlands, as in England and the United States, the compact labor organization to crystallize and make public any latent objection that may exist; and (2) the older shop-trained mechanic, from whom opposition would be naturally expected, is probably also the father of a boy or a girl who is having the benefit of virtually free training in the local trade school. Thus is the disadvantage of the school in its relation to him as a mechanic quite offset by its advantage in its relation to him as a father; and, on the whole, he has no fault to find.

CONCLUSION.

In a degree greater than this report has shown or can show satisfactorily the principle of technical training pervades and expresses itself in the schools throughout this country. From the kindergarten to the university it is in some sense (and in an increasing sense as the years go by) an important instrumentality in Dutch educational work.

In new official instructions issued not a month ago to school inspectors of Great Britain the education department of that Government emphasized the importance of the methods of the kindergarten system. I quote from the instruction:

The Department is strongly of opinion that these methods should to some extent be used at all stages of a scholar's career in a public elementary school.

The idea, of course, is a gradual preparation for systematic higher technical training.

What the English elementary schools are thus recommended to achieve the schools of Holland have substantially achieved already. Technical training is not to be, but now is in the Netherlands, the accepted principle of popular education.

WALTER E. GARDNER,

Consul.

ROTTERDAM, *May 8, 1893.*

RUSSIA.

The object of the St. Petersburg Technical Institute is to give its students the highest technical education.

The curriculum continues for five years and is divided into five yearly courses. Instruction is given in religion, higher mathematics, descriptive geometry, theoretic mechanics, physics, chemistry, anatomy and physiology of plants, mineralogy with geognosy, geodesy, science of construction with architecture, applied mechanics and theory of construction of machines, mechanical technology, chemical technology, metallurgy, political economy and statistics, bookkeeping, modern languages (French, German, and English), and drawing. Besides these subjects, the educational course includes practical studies in physics, chemistry, mechanics, natural history, and other sciences. Such studies are pursued at the workshops and laboratories of the institute, as well as outside in factories and construction works.

The institute has a church, library, museum, room for physics, mechanical and chemical laboratories, and workshops for mechanical and chemical technology.

It is open for those with certificates showing that they have finished the course in the higher literary institutions, for those who have received certificates from gymnasiums of the ministry of public instruction or from literary and professional schools in full grade, and for those possessing certificates from other intermediate schools the course of study in which has been found by the minister of public instruction to be sufficient for entering the institute. In all cases Russian subjects have more rights than foreigners.

If the number of persons who desire to enter the institute exceeds the number of vacant seats, a competitive examination is held in mathematics, physics, and the Russian language, according to the gymnasium course, and the right to enter the institute is given to those who receive the highest grade.

The students pay for tuition 50 rubles* per year in advance.

Students who are Russian subjects not possessing sufficient means to pay for tuition and excelling in studies and conduct have a right to stipends and to free tuition. For this purpose there are in the institute twenty stipends in the name of the late Emperor, five in the name of the founder of the institute (Count E. F. Kankrin), and eighty of the institute, for 360 rubles per year each. One hundred students can be admitted free of cost. Any money that may remain from these stipends is used for assisting the poorer students.

*The silver ruble = 48.3 cents; the gold ruble = 77.2 cents.

The students are obliged, in return for the stipends received, to serve on Crown service one year for each year of stipendiary assistance, provided that at the end of the course they are informed that the Government desires to profit by their technical knowledge.

Stipends can be established by private persons, as well as by societies, with the condition that no restrictions shall be imposed contrary to the regulations of the institute and general laws, and provided that they are approved by the minister of public instruction.

After having successfully completed the full course of studies in the institute, students must, before being graduated, pass examination before special examining commissions, the members of which are appointed by the minister of public instruction. As a result of the examination, these commissioners confer, for excellent knowledge, the grades of technical engineer and technologist. Those who pass the examinations have the right to wear special badges.

Occasionally persons who have not attended the institute are admitted to these examinations, but only for the grade of technical engineer; they must previously present certificates of education giving them the right to enter the institute, as in the case of regular students.

Persons earning the degree of technical engineer or technologist have the right to build factories, with accessories and dwelling houses; also to assist in the construction of works lying under the supervision of the ministry of ways and communications. They can also enter the service of this ministry for the construction of works. Those of them who from birth do not possess any rank are enrolled as honorable citizens, without being made to pay taxes for such title. The minister of public instruction has the right to ask for the title of hereditary honorable citizenship for such technical engineers and technologists as can prove that they have successfully managed a factory for ten years or fulfilled the duties of technical engineer for that time. Moreover, they enjoy certain rights of exemption from military service.

The institute belongs to the jurisdiction of the ministry of public instruction and is subordinated to the curator of the St. Petersburg educational district.

Its management is confided to a director, with the assistance, in special cases, of the educational and economical committees. The director is selected from persons celebrated for their scientific and educational work. The function of director may be joined to that of professor. In such case the director receives, besides his salary, an additional fee amounting to 1,500 rubles per year. The personnel and students of the institute are subordinated to the director as their chief.

As aids to the director of the institute an aid for the educational part and a secretary for managing the affairs of the educational committee are appointed by the minister of public instruction from professors of the institute, upon the recommendation of the director approved by the curator of the district.

The committee of the institute consists of an instructor of religion and professors. The duties of the committee are as follows: Affairs presented for approval before the minister of public instruction; plans and prospectus of theoretical and practical instruction of the institute; division of instruction and practical studies on courses, cabinets, laboratories, and workshops, together with the apportionment of time for each subject; suggestions for orders of control over the studies of the students and over examinations of theoretic and practical instruction; judgments of qualifications of candidates for vacant professorships and adjunct professorships; examination and survey of yearly report of the educational part of the institute; suggestions for disposing of moneys appropriated for the educational part of the institute; selection of honorary members of the institute and assignment of the honorary grade of technical engineer; propositions for temporary fulfillment of vacant functions; affairs presented for approval before the curator of the district, propositions for offering stipends and free scholarships, according to the regulations of the ministry, to students, also of depriving students of such privileges; rules for using the library, collections, and other school accessories, as well as suggestions for furnishing libraries, collections, and school accessories; judgments of candidates for functions of instructors and machinists and discussions of all questions presented to the curator of the district; affairs decided by the committee itself concerning the admission of students, examinations, review of half-yearly reports on the educational part and examination of written articles proposed to be printed in the name or on account of the institute.

The instruction of physics, chemistry, mechanics, architecture, mechanical technology, chemical technology, as well as the supervision of practical work, is intrusted to professors and adjunct professors. The instruction on all other subjects is confided to teachers.

Professors and adjunct professors are selected from persons renowned in their respective specialties and possessing talent for teaching. A professor of physics and a professor of chemistry must have a scientific degree, the former that of doctor, the latter that of master. Others are not obliged to possess scientific degrees, but they must have received the highest education on the subject which they propose to teach. Instructors of the institute are selected from persons who have successfully finished the course of higher educational establishments, whereas teachers of foreign languages, tracing, and drawing are selected from persons who, if not having received the higher education, are nevertheless admitted by the ministry of public instruction for instruction in the higher and intermediate schools. The mechanics are selected only from persons who have received the higher education on subjects of their respective specialties and who possess diplomas or certificates on such specialties.

The economical committee is composed of three members appointed by the curator of the district for three years. They are chosen from persons who instruct in the institute or who manage some special part of it. This

committee manages the whole property of the institute, prepares yearly estimates of expenses, disposes of all money appropriated by the committee, and draws contracts for sums not exceeding 5,000 rubles. When the expenses do not exceed 1,000 rubles per year for each person, and when contracts do not exceed 7,000 rubles, the committee must ask permission of the curator of the district; when the expenses exceed these sums, the permission of the minister of public instruction must be obtained.

The personnel of the institute consists, besides the above-mentioned persons, of the secretary, his aid and archivist, the bookkeeper, his aid, the overseer of the buildings, the librarian, the keeper of the museum, the architect, and the physician.

The professors, adjunct professors, and inspector are appointed by the minister of public instruction. The other persons in the institute are selected by the curator of the district. The instructor of religion is appointed by the minister of public instruction, in accordance with the diocesan government. Hired clerks, workmen, the assistant surgeon, and all other lower employés in the institute are hired by the director, who has the right to appoint a limited number of such employés, provided their combined salaries do not exceed the definite sums fixed by the committee.

J. M. CRAWFORD,

Consul-General.

ST. PETERSBURG, *March 13, 1893.*

SWEDEN.

In Sweden the interests of technical education are promoted by means of many colleges of more or less importance.

The Technical High School stands foremost in this work, and the noted Technical School of Stockholm holds a place of its own.

For the training of engineers, but possessing, however, fewer resources than the High School, are Chalmers's Technical Institute, in Gothenburg, and the four State elementary technical schools in Malmö, Norrköping, Örebro, and Borås. To these intermediate schools must be added the Technical Professional School, at Eskilstuna, and the State-supported lower technical professional schools, twenty-nine in number. There are, besides, the Sloyd Society School, in Gothenburg, and a newly established school in Luleå, which, up to the present, have worked without Government support.

The Technical High School, at Stockholm, the principal polytechnical institute in Sweden, has for its object the scientific training of young students who intend to devote themselves to some technical occupation.

The subjects of instruction at this high school are: Mathematics, geodesy, topography, descriptive geometry, elementary mechanics, higher theoretical mechanics, descriptive mechanics, construction of simple parts of machines, the theory and practice of machine construction, mechanical technology, mining mechanics, the study of steamship construction, general and applied physics, general and analytical chemistry, chemical technology, laboratory work, mineralogy and geology, mining chemistry, general metallurgy, metallurgic laboratory work, mining, building, building estimates, architecture, history of architecture, construction of roads and water ways, linear drawing, free-hand drawing, ornament modeling, political economy, and factory work.

The high school includes the following five technical departments, viz: (1) Machine construction and mechanical technology, with partly a three years' and partly a four years' course; (2) technical chemistry, with a three years' course; (3) metallurgy, in three subdivisions—the first for the mining mechanics (four years' course), the second for metallurgy and smelting, and the third for mining, the two latter divisions being courses of either three or four years; (4) architecture, with a course of four years; (5) road and water-way construction, with equal courses of four years' duration.

The course of instruction during the first year is the same for all ordinary pupils, but afterwards the studies are directed according to the division intended to be pursued.

The students at the high school are: (1) Ordinary, who attend till they have acquired the amount of skill requisite to the obtaining, after a complete

course, of a full certificate; (2) special, who, when they show themselves possessed of the skill required by the governors, enjoy instruction in a smaller number of subjects and may obtain certificates of their attainments in those branches; and (3) extra pupils, who need not give any previous proofs of their ability by passing an entrance examination, and who may enjoy the instruction, but are not entitled to receive any testimonial from the college as to their attainments. For ordinary students the instruction is free; special and extra pupils pay a fee fixed by the governors and varying from \$2.68 to \$13.40 per term. The management of the high school is under the direction of governors appointed by the King.

The high school has a library of about 23,000 volumes and above 500 manuscript reports of technical matters furnished by traveling students, and, in addition, a valuable collection of models, instruments, etc., used at lectures on the various branches of study.

The technical school in Stockholm has for its aim to give a clear and practical training in the knowledge which is requisite for an intelligent and accurate execution of industrial work and by this means to further Swedish handicrafts and the development and improvement of art industry. The departments are five in number:

(1) The technical evening and Sunday school, intended for young pupils and men, more particularly those who are already engaged in factories and handicrafts. The pupils are free in their choice of subjects, and the scheme of study is so arranged that the students have a selection from eighteen branches of industrial education.

(2) The technical school for women, which endeavors to impart to women that artistic insight and skill that will enable them to secure profitable technical employment. The subjects of instruction are nine in number and are at the student's choice.

(3) The higher art industrial school has both men and women students, and the three years' course of instruction demands the whole or the greater part of the school day during the term. In the first section of this school is taught pattern-drawing; in the second, decorative painting, lacquer work, etc.; in the third, modeling, ornamenting, etc.; in the fourth, wood-carving, chasing, engraving, and work in the finer metals; and in the fifth section are trained the future teachers of drawing, modeling, and handwriting in the schools for secondary instruction, technical elementary schools, and normal colleges for teachers.

(4) The school of building, with a course of three full years and an obligatory scheme of instruction, gives a training in the knowledge requisite for the strict accuracy demanded in the preparation of building plans.

(5) The school for machine work gives that instruction required for the extremely accurate knowledge demanded by mechanical technical work and (as does the previous department) receives pupils who are above 16 years of age. The first section is for the training of chief engineers, machinists, and draftsmen in mechanical workshops; in the second foremen of mills receive

instruction; the third deals with assistant engineers and machinists, workers of metal plate for steam boilers, smiths, makers of mechanical instruments, makers of clocks and watches, etc.; in the fourth shipbuilders receive their training; the fifth gives instruction to metal-plate workers for house, bridge, and railway construction and to constructors of water and gas systems, etc.; the sixth gives instructions to founders; and the seventh is for the training of electro-machinists. Besides these ordinary departments, there is an additional school giving daily instruction in professional and decorative painting.

The ordinary subjects of instruction at the technical school are geometrical construction, linear drawing, industrial-art designs, figure and landscape drawing, descriptive geometry, perspective and free-hand drawing, painting, modeling, arithmetic, algebra, geometry, mechanics (together with practical mechanics), mechanical drawing and mechanical technology, experimental physics, chemistry and chemical technology, knowledge of commercial objects, instruction in tools, building construction, architecture and designs, elements of field surveying and leveling, composition, bookkeeping, ornamental writing (together with calligraphy), advanced industrial-art designs, wood-carving, embossing, chasing, engraving, making of plaster casts, elementary history of art, estimates and special designs and applications for embossed leather work, and painting on porcelain and glass. Of no small importance is the instruction in the extraordinary subjects of training, for which school a special Government grant of \$1,070 is received. The subjects taught include knowledge of styles and ornamental design, decorative and professional painting, art needlework, photography, hygiene of dwelling houses and workshops, and gymnastics.

The lecture rooms contain valuable collections of such models and engravings as are of illustrative importance in the instruction. The library numbers 10,000 volumes, mostly technical literature, and a well-arranged collection of more than 18,000 design engravings. The school museum embraces many thousand models, consisting in great part of plaster casts and metal castings from famous monumental constructions; a collection of copies of Italian decorative paintings, models for wood-carving, fine metal work, art textiles, etc.; a technical collection of dyestuffs, metals, weaving material, all the kinds of wood usually employed in various branches of carpentry, etc.

Chalmer's Technical Institute, in Gothenberg, is for the training of such young students as are intended for those industrial professions whose pursuit demands a knowledge of natural science, and especially an acquaintance with technical chemistry. The institute gives such teaching in a higher and in a lower division. The higher division, which has a scientific technical direction, embraces three classes of a one year's course and then divides, after the first year's training, into four different sections, viz, the mechanical technical, that for technical chemistry, the section for construction of roads, water ways, and buildings, and, finally, that for shipbuilding. The

lower division, in which the teaching is of a general comprehensive character, and particularly in practical directions, embraces two one-year classes.

There are, besides, in Sweden four technical elementary schools—in Malmö, Norrköping, Örebro, and Borås. They have as their object the imparting of elementary technical knowledge to young pupils who wish to fit themselves for industrial occupations. The subjects taught are mathematics, mechanics, physics, chemistry, mineralogy, geognosy, the Swedish language, the principal modern languages, commercial bookkeeping, architecture, free-hand drawing, modeling, and factory work.

The technical school in Eskilstuna consists of two departments. The older of these—the Sunday and evening school—is intended for instruction in the most necessary elementary technical knowledge of such persons as are already engaged in industrial pursuits, especially in iron and steel manufacture. The subjects of instruction are mathematics, descriptive geometry, linear drawing, general mechanics, mechanical technology, practical mechanics, machine drawing, physics, chemistry, free-hand drawing, modeling, professional drawing, good handwriting, the Swedish language, and book-keeping. The instruction is given in a higher and in a lower course, both of two years. The Sunday and evening school is in yearly receipt of a grant of \$2,144. The second department is for instruction in finer smith's and metal work; it receives a yearly grant of \$402 from the town of Eskilstuna and an annual grant from the Government of \$1,072. The subjects are free-hand drawing, modeling, wood-carving, engraving in metal, metal casting, chasing, embossing, etching, galvanizing, smithing, filing, turning, professional writing, and knowledge of styles.

In 1892 there were twenty-nine lower technical work schools erected by various large towns, and principally intended to give young people engaged in handicrafts and manufactures a necessary instruction in their native language, good writing, arithmetic, free-hand drawing, linear drawing, professional drawings, modeling, and various forms of instruction in professional painting, building design, and machine and building drawing.

The number of teachers and pupils at the technical schools during the spring term of 1892 and the amount of Government and communal grants in the same year are shown in the following table:

Schools.	Grants for 1892.		Pupils.		Teachers.
	Government.	Communal.	Men.	Women.	
Technical High School, Stockholm.....	\$39,316	.....	272	.....	26
Chalmer's Technical Institute, Gothenberg	10,666	.....	212	.....	13
Technical school, Stockholm.....	25,212	\$2,010	981	451	70
Four technical elementary schools.....	25,406	*134	240	.....	38
Technical school at Eskilstuna.....	3,216	402	155	4	11
Twenty-nine technical professional schools.....	9,326	17,500	2,915	851	210
Total.....	113,142	20,046	4,775	1,306	368

* Besides free locale.

Besides the above-mentioned grants, the schools disposed of donated funds as follows: Technical High School, \$33,500; Chalmer's Technical Institute, \$93,800; technical school at Stockholm, \$16,884; technical school at Eskilstuna, \$7,370.

In Norway there are technical schools at Christiania, Trondhjem, and Bergen, established upon the same principles as the technical schools in Sweden, which are supported partly by the Government and partly by the communities.

CARL P. GERELL,
Vice-Consul.

STOCKHOLM, *July 26. 1893.*

SWITZERLAND.

Switzerland is famous for its educational advantages in general. Few countries, if any, have so many schools in proportion to population.

Of industrial and technical schools this is especially true. They receive patronage, encouragement, and private support from all classes of the people; and the cities, cantons, communes, and the Federal Government each add important money contributions. The General Government gives subsidies to not less than 157 of these institutions founded for the advancement of trade and industrial education. Above 17,000 young Swiss are attending these industrial schools.

More than \$330,000 have been paid out by the Government for the support of trade schools during the last seven years, while the amounts added by cantons, communes, and private subscription raised the total to above \$1,500,000. The fact is that the Swiss people pay out over \$289,000 a year to aid their boys to perfect themselves in their trades. We must add to this the great sums granted for the higher Federal Polytechnic, the schools of forestry, agriculture, etc. Let it be remembered that Switzerland contains a population of only 3,000,000.

The opinion has been general for many years that in Switzerland, as in the United States, the so-called learned professions have been overcrowded. Thinking people look with alarm at the vast number of professional men turned out by colleges of every grade and rank all over the world. How are these tens of thousands to make a living in the inevitable struggle that is before them?

Switzerland is solving the problem for herself. She is doing it by ennobling labor; by teaching the young that a trade well followed is as honorable as a profession; that by labor of the hands, as with labor of the intellect, there are honorable heights to be reached; and she emphasizes her teaching by opening schools of every kind for the advancement of industrial education. Young men now learn trades in Switzerland with zeal, looking for the same honor and the same reward that is anticipated from the adoption of professions. The basis, however, on which they build is more solid, the aim more elevated, than ever before.

In Switzerland a master carpenter or a foreman of stonecutters, trimmers, weavers, spinners, watchmakers, or what not is now supposed to be, in a sense, an educated man—that is, educated in every detail pertaining to his calling. He need not know astronomy or the dead languages, but he must know the science that pertains to the thing he is doing. He must bear in his pocket a certificate that he knows his trade and all about it—that he has

learned its elements from practical masters and its science from men of knowledge.

The Swiss special training ennobles labor; it raises the mechanic in the eyes of the world, as well as in his own eyes. A Swiss who has attended a trade school the full time understands his calling perfectly and has no trouble in securing employment at the highest wages. These are facts shown by the record. Most of these industrial and technical schools know what becomes of the young men who have studied with them, and they follow them into life with parental solicitude.

The schools about which this report will mostly concern itself, whatever their varied names may be—"trade," "progressive," "special," "art industry," "technic," "technicums"—can be called, in short, the common schools for industrial training. They are the people's schools as distinguished from the great Polytechnic Institute of the General Government.

Boys who enter them must be 15 to 16 years of age, and have first received a tolerable education in the secondary schools of their native towns. Quite a number of these schools are termed *Fortbildungs-Schulen*, a term perhaps equivalent to our "grammar schools," "evening schools," etc., in which no special trade or industry is taught. They are simply for adding a little to, and repeating in a special direction, what the boy has already partly learned in the public schools. They are to complete what the public school left unfinished.

A division noticeable in the strictly technical and trade schools is that of special and general. At some watchmaking is taught; at others, weaving; at others, embroidering; at others, carpentering and metal work, and so on through all the trades. In a few many trades are taught and practiced side by side, and in the higher class the sciences applicable to all trades and industries are taught. None but trained teachers and practical specialists are employed in giving instruction, and schools are provided for the special education of such teachers.

It may be added that a department of industrial education is attached to many of the public schools. These are, of course, separate from the special training schools described in this report.

As stated, 157 of these special schools are subsidized by the General Government; always in proportion to their importance and their work. This Government contribution must, however, be devoted wholly to the schools, and not to school buildings or expenses connected with them. Some of the trade schools are quite small, and receive but very small sums; others, like the "Technicum," at Winterthur, the watch schools at Geneva, Locle, and Chauxdefonds, and the large industrial trade and drawing schools of Zurich, St. Gall, etc., are handsomely assisted.

The important basis of all these schools is drawing and designing. The Swiss theory is that no man can properly make a thing that he can not first sketch on paper. It is therefore no wonder that Swiss schoolboys go around with pencils and drawing books, somewhat as American boys go about with

penknives and marbles. Every schoolboy must learn the primary rules of sketching and drawing, and the extent to which this artistic preparation for every calling in life is carried is astonishing to foreigners. Boys on leaving even the secondary school can draw excellent maps and sketch offhand almost any object in still life. It is a part of their common daily school work; they must all do it, and the exercise is only preliminary to the more perfect lessons they are to receive in the trade and technical schools, toward which so many of them are turning their eyes.

ORIGIN OF THE SCHOOLS.

One hundred and thirteen years ago a simple carpenter at Zurich opened a drawing school on Sunday afternoons to aid his apprentices and fellow-carpenters in properly learning their trades. He traveled to Paris and London in search of information. This was among the first efforts at technical education anywhere. Art schools (for the learned only) had existed, in a small way, for twenty-five years previous in Geneva and Basle.

The practice, now so common in Switzerland, of having an industrial department attached to certain of the common schools dates from the time of Napoleon's interference in Swiss affairs. Industrial and technical education is now so common in Switzerland as to receive almost the same attention as the common schools.

In a few cantons the attendance at some of these schools (the *Fortbildungsschule*, drawing school, etc.) is compulsory. They are held oftenest in the evening, but a proposal is made to change the school laws so as to permit absence from the public schools for boys who propose to attend the drawing schools. The evils of having drawing schools in the evening, instead of during the day, are obvious to anyone. Of course, these evening drawing schools are not among the most important of the industrial and technical schools aided by the Government.

GOVERNMENT AID.

The present Swiss system of industrial and technical education has its authority in the federal law of June 27, 1884. A few of the requirements of that law are as follows:

The institutions that may receive aid from the Federal Government are: Trade schools, *Fortbildungsschulen* (or evening schools), the higher technical and industrial schools, the art and special schools, as well as industrial museums and exhibits for aid of industrial and technical training.

The sum granted by the Government is never to exceed one-half of the total of that subscribed by cantons, communes, cities, and private individuals. The Government may also contribute toward expenses for lectures on industry, for prizes for advancement in industrial education, and for special exhibitions ordered by the Government of industrial schools receiving Government aid. Such exhibitions are compulsory on the part of the institutions referred to.

The methods of teaching, programmes, reports of examinations, etc., in these institutes must be submitted to the Government for approval, and the amount of the subsidy will depend on the result of the work in any given institution. The Government will aid in preparing proper teachers for work in the industrial schools.

The assistance given these institutions by the Government is not to be followed by any reduction in the amounts already given by cantons, communes, etc. Public schools where general education is taught will only receive aid for the department in which industrial or technical education is a specialty.

Great discretion is given the executive power as to the proper distribution of the money voted, and every industrial school is carefully examined by Government experts and officers who have special knowledge for the business.

The schools must all make annual reports to the Government of their condition, attendance, programmes, etc., and the aid is then given accordingly. This subvention varies from 125 francs* a year, given to the little wood-carving schools, up to 39,000 francs a year for the Winterthur Technicum and 750,000 to the Polytechnicum at Zurich.

The greater number of the Swiss industrial and technical schools are open to foreigners, except in cases where the school has been organized by private individuals or mercantile societies, as at St. Gall, where the industrial-art and drawing school was founded and largely supported by the society of merchants.

The attendance at the schools varies from two dozen at the wood-carving school up to 600 at the Winterthur Technicum and to over 1,000 at the Federal Polytechnicum. The charges for tuition average about 125 francs (\$24.12) per year, while expenses for board and room vary from 75 to 100 francs (\$14.45 to \$19.30) per month. The pupils are not all young boys just out of the secondary schools; not less than 35 per cent of them are above 18 years of age.

Of the schools subventioned last year by the Government there were 6 industrial-art schools, 38 industrial-drawing schools, 73 trade schools and *Fortbildungs-Schulen*, 2 weaving schools in silk and cotton, 7 watchmaking schools, 3 technicums; 7 schools for shoemakers, carpenters, and workers in metal and stone; 2 wood-carving schools, 6 schools for female industries, and 13 industry and trade museums.

STUDIES.

It is of interest to note what is taught in the two great divisions of Swiss industrial and technical schools. In 87 of the *Fortbildungs-Schulen* and drawing schools drawing was taught, modeling in 26, architecture in 11, arithmetic in 45, geometry in 32, bookkeeping in 42, writing in 12, physics in 8, chemistry in 2, hygiene in 2, technology in 1, language (German, French,

*1 franc=19.3 cents.

or Italian) in 31, foreign language in 19, English in 2, Swiss history in 1, political economy in 1, housekeeping in 2, stenography in 1, religion in 1, and gymnastics in 1. These are mostly theoretical studies and differ from those of the more technical and industrial schools. As already mentioned, in some of the cantons the attendance upon the *Fortbildungs-Schule*, with the courses above designated, is in a sense compulsory. The students in such cases, however, are sometimes released from at least one course of the common school. The lessons in these *Fortbildungs-Schulen* are oftenest given in the evening, but some of them on Sunday forenoons.

The higher or general technical and industrial-art schools, such as those at Zurich, St. Gall, Winterthur, Burgdorf, Biel, Basle, and Geneva, give complete instruction in various branches of technics, art, and industry.

The Winterthur Technicum, for instance, comprises special schools for machinists, builders and architects, chemists, industrial arts, surveying, forestry, weaving, trades, machine technics, and electricity, as well as a school for preparing teachers for positions in the trade schools.

METHODS.

The methods of a few of these schools will give an idea of the general system. At the Winterthur Technicum the schools are open mostly in the summer, though some are arranged for the winter as well. There are usually about 600 attendants. Tuition is 30 francs (\$6) per six months with 20 francs additional for use of the laboratory. An education equal to that obtained in the secondary schools is an absolute prerequisite to admission, and students in building and machine departments must also have had some practical experience in their trades as apprentices.

There are thirty-five principal teachers and assistant teachers. The instruction will average about thirty-seven hours a week, and the course is three years. Two-thirds of the first three terms are devoted to theoretical and one-third to practical work. In the last term the time is evenly divided between theory and work.

In the department devoted to architecture and construction the curriculum is as follows: First class (in summer), thirty-one hours a week devoted to German, arithmetic, algebra, geometry, physics, chemistry, lineal drawing, and hand drawing; second class (winter), thirty-four hours weekly devoted to German, algebra, geometry, descriptive geometry, physics, chemistry, architecture, architectural drawing, and ornamental drawing; third class (summer), thirty-eight hours weekly, instruction in mathematics, practical geometry, architectural form, descriptive geometry, architectural drawing, ornamental drawing, and ornamental modeling; third class (winter), thirty-five hours a week, instruction in mathematics, practical geometry, architecture, descriptive geometry, architectural drawing, construction, mineralogy, ornamental drawing, and modeling; fourth class (winter), forty hours' instruction in architecture, building material, stonecutting, construction, modeling, plans, specifications, building, ornamental drawing, orna-

mental modeling; fifth class (summer), forty-one hours a week, instruction in perspective, construction, plan, style, heating, ventilation, water supply, lighting, bookkeeping, building rights, ornamental drawing, and ornamental modeling.

In these classes, as in all the departments of the Winterthur Technicum, the hours devoted to all kinds of drawing exceed those devoted to any other one thing. In the fifth class nineteen hours out of the forty-one a week are for instruction in drawing. This same proportion exists in all the Swiss industrial schools. Drawing and designing—the ability to first put things on paper and to construct them afterwards—is the idea constantly enforced on beginners. Boys must learn how to invent things—make plans, forms, and combinations. The world tires of too much repetition; new things, new graces, must be found. The plan here is to teach pupils drawing as soon as possible from plaster figures, supposing, of course, that flat, or plane, drawing has already been mastered. Copying from photographs of plaster models, etc., is regarded as harmful. Copying things themselves is what is wanted—vases, lamps, stoves, tables, machines, flowers, plants, etc.—and many public exhibits of such work made by students are regarded as of extreme value in increasing the boy's zeal and pride in his work.

Of course, the lessons in drawing and designing are as far as possible in the direction of the trade or calling the boy is preparing for.

Modeling in clay is frequently taught with astonishing results, as is proven by the work shown at the public exhibitions of the industrial schools. Generally the work is cast in plaster and exhibited. This art of casting in plaster is also taught in many of the schools, as is also burning of clay. Five hours a week, it is claimed, should be devoted to modeling and casting if much rapid progress is to be hoped for.

As a result of careful teaching in modeling and drawing for two or three quarters, the exhibition of school work at Zurich in 1890 was wonderful. The mechanical and technical drawing, the modeling in clay and casting in plaster—in short, drawing and sketching in all directions—showed how good a groundwork the students had on which to base further development.

The other branches of schools in the Winterthur Technicum are conducted similarly to the one for architecture and construction, the programme of which has been given—except, of course, that the sciences taught in each and the general instructions are in a line with the special calling to be pursued.

It is noticeable that a Swiss specialist is expected to know very much more of higher mathematics, drawing, chemistry, mineralogy, physics, etc., in general than is ever customary in American schools of this kind. In short, a Swiss master mechanic is in every sense a much better educated man than is the master mechanic of most other countries. The advantages of this better education are noticeable in a hundred directions. For Switzerland well-trained workmen are an absolute necessity. The competition on all sides of the country is immense. It is an interior little land, without even

the raw material necessary for industrial and manufacturing success. Nature has done nothing for the country. There are no seaports, no navigable rivers, no great cities—not even a road of egress for the wares it may produce, except across the territory of its neighbors. It possesses by nature not one manufacturing advantage; and yet its products compete with the most powerful nations in existence, and its markets are in every corner of the earth. Its exports are enormous, considering the size of the country. Its manufactured articles have the most enviable reputation in the world. Its industrial establishments are immense in number and variety. And all this is because of the careful industrial training given to the working classes. There is no other reason.

I have described the technical school at Winterthur. There are similar schools of almost as much importance at other places in Switzerland.

The Technicum in Biel, for western Switzerland, contains departments, or schools, for watchmaking, electro-technics, mechanics, art industry, building technics, a railroad school, schools for forestry, surveyors, and trade, and a course for workingmen. Pupils on entering must be 15 years of age and possessed of good primary education. The tuition is 50 francs per term for Swiss citizens; foreigners pay at least double. The raw material used by pupils must be paid for. The student, however, has the benefit of articles made by him and sold. The course is three years. There are twenty-eight teachers. Everything pertaining to the theory and practice of making time-pieces is taught, and studios and workshops are attached to the schools. Here, as in similar Swiss schools, there is much instruction in mathematics, drawing, chemistry, physics, etc., in addition to the studies and work bearing on the special trade being learned. In the railroad school young men are prepared for the duties of locomotive engineers, station service, controlling offices, freight agents, firemen, etc. Applicants for entrance must have had some experience in workshops or at locomotive depots.

Burgdorf, in the canton of Berne, also possesses a "technicum" for purposes similar to the ones already described, though it is a newer school.

There are no less than seven schools devoted to instruction in watchmaking. They are located at Geneva, St. Imer, Locle, Chauxdefonds, Neuchatel, Pruntrut, and Solothurn.

The school at Chauxdefonds is as important as any. Its yearly expenses are about 25,000 francs, of which the General Government contributes 10,000 francs. It has sixty regular attendants. The tuition for Swiss is 15 francs a month during the first two years and 10 francs thereafter. Foreigners pay 25 francs a month all the time. The course is for three years; a course for four years for mechanics is attached. A preparatory course, and also a higher or finishing course, of one year each, may also be taken.

In the purely theoretical studies the mechanical course is the same as the watchmaking course, except that technology, applied mechanics, metallurgy, and chemistry are substituted for theory of watchmaking and cosmography. In this school the watchmaking apprentices furnish their own tools, etc., but

the work produced belongs to them or is sold in their interest. The mechanics, however, receive everything from the school, and the product of their labor goes to the school. Here, as in all the other Swiss technical and industrial schools, a few scholars are taken free of charge. The theoretical studies are pursued during the time of labor. The hours are from 7 a. m. to 12 m. and from 1:30 to 7 p. m. There are nine teachers. In the theoretical course for watchmaking the following branches are taught: Arithmetic, algebra, geometry, bookkeeping, theory of watchmaking, mechanics, physics, trigonometry, and drawing.

The practical workshop course for watchmakers is as follows: Preliminaries of turning, filing, small tools, drafting, finishing, remontoir mechanisms, simple parts, complex parts, sundry escapements, setting, taking apart and putting together, and regulating. In shops for mechanics the course is: First year, preliminaries, file work, wheelwork, forging, manufacture of models in smelting; second year, models in smelting, file work, wheelwork, forging, small mounting and fitting, measuring instruments in common use, manufacture of simple awls and matrices; third year, mounting and fitting, making of machine utensils for clockwork and other machinery, sundry machines, making of machines and implements composed and designed by the pupil, awls and matrices, dies; fourth year, instruments of precision, philosophical apparatus, instruments for measuring, the making of machines composed and designed by the pupil. The school is controlled by a commission of twenty-one members.

The other watchmaking schools are similar to this one in system, management, classes, studies, and attendance.

Among the more important of the industrial schools are those of Geneva and St. Gall. The Geneva *École cantonale des Arts et de l'Industrie* is kept up at an expense of over 110,000 francs yearly, of which some 30,000 francs are contributed by the General Government. The course is four to five years. Attendants must be at least 14 years old and pledged to attend the city drawing school. Tuition, except 5 francs entrance fee, is free. Twenty-five per cent of profit on all articles made and sold by the pupils goes to the school. There are nine teachers and a control commission of eight members. The attendance averages about 175; the hours of instruction are from twenty-five to forty-eight in the week. The branches taught are as follows: Decorative sculpture in architecture, molding and painting plaster; sculpture in stone, marble, and wood; artistic gold work, bronze in art, artistic iron-work, work in wood, and ceramics and decorative painting.

The industrial and drawing school at St. Gall, in connection with the industrial museum, was established by the *Kaufmännische Directorium*, or board of merchants, and is one of the best of its kind in the country. It is first of all a special designing and drawing school for the training of persons entering the embroidery industry, an industry that employs very many thousands of people in eastern Switzerland and that exports to foreign countries about 100,000,000 francs' worth a year. The United States alone receive of these

elegant embroideries some 30,000,000 francs' worth a year. The arts of drawing, designing, and embroidering are all taught in this St. Gall school, as is also designing for weavers. The collection of embroideries, laces, etc., exhibited in the museum, to which the school is attached, is large, and the advantage to the students is very great. Opportunity is also offered in this school to persons proposing to fit themselves for pursuing other callings than embroidering or weaving and who wish certain artistic instruction.

The course for designing is four years; for enlargers of patterns, two years. Students can not enter before their fifteenth year is passed, and they must be possessed of a proper general education. The tuition is 10 francs per term. Foreigners are not admitted on any terms. There are eight teachers and about eighty attendants, though many of these are irregular. Most of the instruction is in designing and drawing; also, in embroidering with the machines. There is a special course of six months for embroiderers, where theory and practice are taught eight hours in the week. The tuition is 20 francs.

In this St. Gall school ladies are admitted, as they are in many of the other schools, and are taught drawing, designing, modeling, needlework, ironing, sewing, machine sewing, dressmaking, etc., as well as method and pedagogy for those who expect to be teachers in industrial schools. There is also a so-called amateur course for ladies, who secure instruction in drawing, painting, needlework, etc. About twenty-five young ladies attend this course. There is held in connection with this St. Gall drawing and industrial school an interesting course of lectures on art in general. They are usually given winter evenings by the director. The opportunities and advantages given young men and women by this institution are recognized by all and the good results easily noticeable.

There are special schools for woman's work and instruction at Basle, Chauxdefonds, Berne, Geneva, Chur, and Zurich. In these schools everything is taught pertaining to dressmaking, lingerie, cutting, drawing, art of costuming, pattern-making, etc.

The Zurich silk-weaving school is a well-known and successful establishment. Swiss pupils pay 500 francs for the two years' course. Foreigners pay extra. Everything connected with silk-weaving in any way is taught by practical weavers and teachers.

I have described only the more important of these special industrial and technical schools. There are many of them; in short, there are special schools in Switzerland for almost everything, from teaching how to make shoes to the building of cathedrals. They are on the increase, too, and their great advantage to working people is being realized from year to year.

I should mention that, in addition to her industrial schools, Switzerland has, in connection with them, not less than thirteen industrial museums, all of which receive aid, little or much, from the Federal Government. The industrial schools receiving aid are compelled not only to make stated reports to the Government, but also to prepare for and participate in public exhibi-

tions of their work. The expenses of these institutions are mostly paid by the General Government. The schools are all rigidly inspected and reported on by Government experts selected especially for their training and fitness in this direction.

The schools I have described in this report may be called the common, or middle, industrial and technical schools of the country. The great federal Polytechnicum, at Zurich, controlled and wholly supported by the General Government, is almost too well known the world over to require any particular description here further than to say that it is supplied with the best teachers in Europe and is furnished with the most complete laboratories, ateliers, shops, apparatus, etc., known to the age. It embraces schools for architecture, civil and mechanical engineering, chemical technology, electro-technics, forestry, and agriculture. It includes normal, philosophical, and political schools.

There are nearly fifty professors and seventy assistants, who give two hundred courses of lectures yearly. The students number over a thousand. Tuition varies from 400 to 500 francs. The Government pays out for this institution 750,000 francs a year, besides large sums devoted to building new laboratories, etc. Lectures are given in three languages. The following laboratories are connected with the institution: Laboratory of electro-technics, general working laboratory, scientific laboratory; laboratories of analytical chemistry, technical chemistry, pharmaceuticals, photography, chemical agriculture, and forestry; and laboratory or institute for official scientific examination of steel, iron, and other material used in building. There are also large and valuable scientific collections and collections of engravings, etc., connected with the Polytechnicum.

The total yearly expenses for technical and industrial schools in Switzerland, including expenses for the Polytechnicum amount to over 2,000,000 francs (\$395,000). Add to this the expenses for general public instruction, and the sum paid out for popular education in Switzerland amounts to over 31,000,000 francs (\$598,300) a year. In the canton of Zurich the expenses for schools are 18.5 francs per inhabitant; in Basle, 21.2 francs; in Geneva, 10.2 francs. In some of the smaller Catholic cantons only 5 to 6 francs, and even less, per inhabitant are paid out for schools, while in the canton of St. Gall, mixed Catholic and Protestant, 12.9 francs are expended.

In addition to the Federal Polytechnicum, Switzerland supports five regular universities—at Zurich, Berne, Basle, Lansanne, and Geneva—besides colleges for philosophy, law, theology, etc.

S. H. M. BYERS,
Consul-General.

ST. GALL, *March 20, 1893.*

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THE COAL TRADE IN GREAT BRITAIN.

In order to understand the present condition of affairs in connection with the English coal trade, it is necessary to go as far back at least as 1888. For several years previously the coal trade had been in a very depressed condition, but during 1887 and the earlier part of 1888 prospects gradually assumed a more favorable aspect, and as autumn approached prices distinctly hardened, and before the month of September was reached there was a decided improvement both in prices and in the volume of trade. The leaders of the operative miners were not slow to take advantage of the turn affairs were taking, and, after initiating a short preliminary agitation, promptly made an application through their trades unions for an advance in wages. Partly owing to the improved administration and the ability and zeal of the permanent officials, and partly owing to the fact that there was a better understanding between the various unions in different parts of the country, the trades unions in connection with collieries were in a better position than they had been at the outset of any previous dispute, and the leaders were confident that they would be successful in obtaining their demands. They began by asking for a meeting with the colliery-owners, who have an organization or association of their own called the "Federated Coal Owners," and the latter, having consented to receive a deputation representing the Miners' Federation of Great Britain, being a central association embracing nearly all the most important miners' trade unions in the country, the miners' leaders stated their case and claimed that prices had risen to such an extent that they were fairly entitled to an advance of 10 per cent in their wages, a reduction to that extent having been made in 1885. The owners' federation demurred to this claim, stating that, although things were a little better with them, the improvement was not sufficient to warrant any advance in wages, and, moreover, they had sustained heavy losses in the

past which they had not yet been able to recoup. The miners' federation replied that the improvement was greater than the owners would admit, and that if they gave the advance asked for they would be able to still further increase prices to such an extent as would cover the advance several times over. The owners took a different view and said that to attempt to further increase prices would simply drive away the trade and prevent its prospective development in England, to the benefit of their continental competitors. As they steadfastly declined to accede to the miners' demand, the latter, after the usual preliminary ballots to assure the leaders that they had the full support of all the men belonging to the federation, or at all events an overwhelming majority, gave in their notices of their intention to leave their work at the expiration of fourteen days unless an advance of 10 per cent was given them on their wages. The masters remaining firm and there being every appearance of a prolonged struggle, the public rushed to buy coal in order to be provided for the strike, and the stocks at the collieries were quickly sold out, prices went up, and during the time the notices were running the miners were getting and the owners were selling much more coal than they had probably ever got and sold before in the same space of time. The strike began early in the month of October and lasted until about the end of the month. Before that time a few owners, tempted by the high prices obtainable for coal, had conceded the advance, and the state of the market appeared to a great extent to justify the prognostications of the miners' leaders with regard to the possibility of increases in price being obtained which would much more than provide the means of paying advanced wages. The federated owners gave way and conceded the full advance asked for of 10 per cent on the scale of wages then ruling. The higher prices for coal were not only maintained, but further increased, and the miners from time to time applied for and obtained further advances to the extent of another 30 per cent in their wages, the last advance being gained in March, 1890, after a strike of less than a week's duration, the amount of that advance being 10 per cent, half of which was to commence forthwith and the other 5 per cent to commence from the following August. In August, 1890, the miners were receiving 40 per cent advance on the scale of wages ruling in 1888, and the price at the pit for best Yorkshire steam coal had risen to \$2.55 per ton, the average price of coal exported from the United Kingdom being \$3.19 per ton free on board. During the whole of 1891 and 1892 the price of coal, which had reached in 1890 the highest point it had touched since 1875, was falling, and for the last six months it has been going down rapidly, especially where contracts had to be made with large consumers, such as railway and gas companies, colliery-owners eagerly grasping an opportunity of finding a market for many thousands of tons at one stroke, making contracts even at a considerable sacrifice in price, while resisting any claim for a reduction in the price by the small consumer. This has gone on until (in July, 1893) the price at the pit for best Yorkshire steam coal has declined to \$1.76 per ton, and steam coal is said to have been sold

to the amount of several thousand tons to one railway company at as low as \$1.28 per ton. Notwithstanding these reductions in the price of coal, the miners' wages have remained ever since the 1st of August, 1890, at the maximum rate hitherto paid, viz, 40 per cent above the standard rate of wages paid in 1888; and the owners now say that they are no longer able to continue this high rate of wages in face of a falling market, and, after asking from and being refused by the miners' federation a voluntary concession to the extent of 25 per cent of the 40 per cent advances obtained in 1888, 1889, and 1890, they have given notice to the men to leave their work unless and until they will accept such reduction.

The bulk of the notices expired on July 29, though at some collieries the men had brought out their tools a day or two earlier, and in other cases notices had a few more days to run. The number of hands directly affected is stated to be not far short of 350,000. It is said that the funds at the command of the various trades unions amount to above \$1,849,270, and it has been arranged that for the first three weeks of the strike the men shall not receive any strike pay from the unions, but shall depend on their own individual resources.

The only districts not affected at the commencement of the strike were Northumberland, Durham, South Wales, and Scotland, and the leaders of the miners hope that it will not be long before the men in these districts join the movement. The estimated number of hands employed in these districts is about 250,000.

As soon as it became a practical certainty that the men would actually come out on strike, all classes of consumers began laying in stocks of coal, in many cases at enhanced prices, and some manufacturers have accumulated stocks which they hope will see them through the strike; but many, on the other hand, including some very large concerns, have given notice to their workmen and their customers that as soon as their stocks of fuel are exhausted they will close their works, and some works are already wholly or partially closed.

There is every prospect of a very severe struggle, as both sides seem to feel strongly that whichever side is victorious the other side will not be inclined to venture on another trial of strength for a very considerable time to come. The miners say the masters are trying to crush their unions, and the owners say that if they withdraw their present demand they will not only in many cases be operating at a loss, but will be at the very mercy of their men, who will in future be able to dictate their own terms.

The strike, with its uncertain result, has greatly diminished trade in general in this district. The following is quoted from the Sheffield and Rotherham Independent, dated August 5, 1893:

Nearly all branches of the Sheffield trades are more or less disturbed by the coal stoppage. Throughout the week users of steel materials have been in a state of much anxiety as to the future. They expect the setting down of the steel works and rolling mills if the strike continues, and, as their supplies of materials may then be cut off, they are making every effort to

get in stocks to last for a few weeks. Among the owners of steel works there is a good deal of indifference, and they will cease work as soon as their fuel is exhausted. The rolling mills are, as a rule, without fuel, and, on account of having to buy in the open market at an advance of 40 per cent, they have increased prices and withdrawn all quotations.

BEN. R. BEDLE,
Consul.

SHEFFIELD, *August 15, 1893.*

TRADE OF JAPAN, CALENDAR YEAR 1892.*

FLUCTUATION OF EXCHANGE.

The frequent and marked fluctuations of exchange make it difficult satisfactorily to compare amounts with previous years. During the years 1891 and 1892 the average value of the Japanese silver yen was about 80 and 71 cents, respectively, so that though the total volume of trade for 1892 exceeded that of the previous year by 19,974,292 yen, yet when reduced to United States money at the rate of exchange for that year the increase is only \$761,435. The rapid decline of exchange, however, did not apparently affect the trade of the country as a whole. The only sufferers seem to have been the importing firms, who quite generally complained of depression in the trade. Notwithstanding, however, the discouraging condition of exchange, there was an increase in imports over the previous year of \$300,000.

COTTON MANUFACTURING.

The most important thing to be spoken of concerning the foreign trade of Japan is the increasing facilities of the country for manufacturing her own supplies. Especially is this noticeable in relation to cotton goods.

Importations of raw cotton continue to increase. New spinning mills are established from time to time and those already in operation report enormous profits. Consequently importers of cotton fabrics do not take a cheerful view of the future of that particular line of business. There is no doubt, however, that the consumption of cotton goods in Japan is growing larger each year, and no doubt there will always be a demand for certain kinds of those of foreign manufacture. Thus far Great Britain has taken the lead in their importation, but I think it quite probable, if our manufacturers would take the trouble to investigate and ascertain the kinds and qualities most desired by the Japanese people, that they might secure a fair share of the business.

Last year Japan exported cotton goods to the amount of \$550,589, as against \$300,328 for 1891, her market as yet being principally China and Korea.

* This report will appear in full in the volume of Commercial Relations to be published next year. Several of the tables are not given here.

DECREASE OF IMPORTS FROM THE UNITED STATES.

I regret to state that, though the total of exports to the United States shows a great gain over the previous year, the imports declined to the extent of \$1,220,520. The leading articles showing a decrease are kerosene oil, flour, mercury (or quicksilver), machinery, and clocks, and the largest increase is found in raw cotton, tobacco, and miscellaneous provisions. The largest increase in exports is in raw silk and silk fabrics.

The following tables show a more detailed statement of the general trade of the country. In reducing to United States money I have used the average Government rate of exchange for the year.

Total foreign trade of Japan by countries during 1892.

Countries.	Exports.	Imports.	Total.
United States.....	\$27,459,229.66	\$4,251,518.03	\$31,710,747.69
Great Britain.....	2,784,444.51	14,760,425.77	17,544,870.28
France.....	12,846,522.45	2,570,555.31	15,417,077.76
Hongkong.....	9,434,863.45	4,959,863.02	14,394,726.47
China.....	4,514,790.30	8,881,681.40	13,396,471.70
British India.....	1,009,825.19	5,440,022.70	6,449,847.89
Germany.....	667,955.72	4,526,284.24	5,194,239.96
Korea.....	1,001,596.31	2,162,901.37	3,164,497.68
Russia.....	415,843.76	593,130.53	1,008,974.29
Italy.....	890,574.70	48,052.77	938,627.47
Canada.....	772,768.98	21,835.66	794,604.64
Australia.....	519,477.67	193,678.87	713,156.54
Belgium.....	35,588.83	675,591.59	711,180.42
Switzerland.....	113,304.40	506,691.61	619,996.01
Philippine Islands.....	68,536.79	337,337.03	405,873.82
Austria.....	242,771.86	7,288.50	250,060.36
Hawaii.....	44,117.06	459.75	44,576.81
Sweden and Norway.....	2,033.28	35,369.53	37,402.81
Turkey.....	30,988.93	577.74	31,566.67
Holland.....	13,880.63	12,496.09	26,376.72
Spain.....	2,244.26	23,540.64	25,784.90
Siam.....	2,474.77	3,111.13	5,585.90
Peru.....	717.81	4,282.92	5,000.73
Denmark.....	259.15	4,371.95	4,631.10
Portugal.....		4,295.46	4,295.46
Other countries.....	555,974.82	616,152.79	1,172,127.61
Total.....	63,430,785.29	50,641,516.40	114,072,301.69

Value of exports to the United States from the port of Kanagawa (Yokohama) during the year ended December 31, 1892.

Articles.	Value.	Articles.	Value.
Silk, raw.....	\$16,974,289.69	Fish and fish oil.....	\$21,047.64
Silk goods.....	2,748,027.64	Plants and bulbs.....	20,182.24
Tea.....	4,037,722.01	Menthol.....	10,289.60
Curios.....	612,598.65	Dental goods.....	6,191.80
Sulphur.....	160,216.96	Mushrooms.....	5,138.64
Straw braid.....	52,390.94	Oranges.....	350.64
Paper and paper goods.....	47,435.92	Miscellaneous.....	13,306.80
Skins.....	28,341.71	Total.....	24,763,681.47
Manganese.....	26,150.59		

Value of exports in 1892.

Articles.	Value.	Articles.	Value.
Silk :		Silk manufactures.....	\$228,975.90
Raw.....	\$25,751,517.96	Pierced cocoons.....	217,159.68
Tama.....	36,166.14	Skins, hair, shells, etc.....	208,785.00
Nozhi.....	1,346,707.86	Bêche de mer.....	207,113.97
Waste.....	933,526.01	Textile fabrics.....	199,779.92
Tea.....	5,342,974.19	Sulphur.....	199,483.77
Metals :		Timber.....	192,001.37
Copper.....	3,480,549.54	Ginseng.....	180,251.20
Other.....	121,535.74	Wooden wares.....	163,885.46
Coal.....	3,246,108.36	Bamboo wares.....	162,187.21
Silk piece goods.....	3,148,266.53	Bronze wares.....	151,600.47
Rice.....	2,955,539.66	Paper wares.....	137,560.08
Silk handkerchiefs.....	2,481,035.74	Antimony.....	115,949.15
Matches.....	1,563,449.34	Straw plaits.....	110,165.99
Dried fish.....	1,355,841.82	Glass wares.....	98,614.50
Porcelain and earthen wares.....	1,051,091.81	Tobacco.....	86,866.69
Camphor and camphor oil.....	929,876.07	Bamboos.....	84,235.27
Mats for floors.....	835,442.71	Floss silk.....	24,670.55
Seaweeds.....	706,184.51	Silk and cotton mixtures.....	18,118.79
Cotton textiles.....	550,589.13	Floss-silk waste.....	16,570.60
Oil and wax.....	464,477.67	Waste cocoons.....	10,184.74
Grain, beverages, and provisions.....	461,278.62	Silkworm eggs.....	2,690.90
Cole vegetable.....	412,664.90	Cocoons.....	426.00
Mushrooms.....	400,969.48	Miscellaneous.....	2,170,688.86
Lacquer wares.....	374,933.31		
Umbrellas.....	284,672.62	Total.....	64,187,361.84
Screens.....	246,050.51	Total foreign produce.....	495,593.19
Drugs, medicines, and dyes.....	243,519.03		
Fans.....	242,512.40	Grand total.....	*64,682,955.03
Books and papers.....	231,914.79		

* This total exceeds that given in the first table (p. 293) by more than \$1,250,000, but the tables are given as prepared by the consul-general.

Value of imports in 1892.

Articles.	Value.	Articles.	Value.
Textile fabrics.....	\$9,224,425.52	Clothing and apparel.....	\$457,680.79
Cotton, raw.....	8,750,504.88	Beverages and provisions.....	450,467.97
Sugar.....	6,819,088.61	Oil and wax.....	329,252.11
Cotton threads and yarn.....	5,149,439.04	Wine and liquor.....	285,990.38
Metals and manufactures thereof.....	3,543,311.64	Tobacco.....	222,507.41
Grain and seeds.....	3,469,905.59	Flour.....	197,903.74
Arms, instruments, clocks, watches, machinery, and vessels.....	2,920,301.88	Glass and glassware.....	187,745.58
Kerosene.....	2,365,162.64	Miscellaneous.....	1,799,331.21
Drugs, medicines, and chemicals.....	1,727,825.40	Total.....	50,606,628.98
Dyes and paints.....	1,132,925.94	Japanese produce.....	34,887.43
Hair, horns, ivory, skins, etc.....	1,034,902.98		
Books and stationery.....	537,956.17	Grand total.....	50,641,516.41

W. D. TILLOTSON,
Consul-General.

KANAGAWA, August 21, 1893.

AUSTRALIAN WOOL CLIP—1892-'93.

I transmit a copy of the annual wool circular, which gives interesting and valuable information regarding the Australian wool clip of 1892-'93.

WM. KAPUS,
Consul.

SYDNEY, N. S. W., *July 15, 1893.*

HENRY AUSTIN'S ANNUAL WOOL CIRCULAR.

SYDNEY, *July 10, 1893.*

The wool season which closed on the 30th ultimo was on the whole a disappointing one. Expectations based on the low range of values and arrested production, of slow but sure improvement in price as the year wore on, have been singularly falsified, so much so indeed that quotations from London at the sales which commenced on the 20th ultimo, and are now in progress, are probably as low as, if not lower than, any current during the past twelve months.

All the influences, save one, which were at work during the season 1891-'92 to depress the market have been equally active, and, in some cases, accentuated during the season now under review. Drought, cholera, strikes, depreciation of silver, and financial troubles have each helped to bring about a general shrinkage of values the like of which has probably not been seen within the memory of man.

Fashion, too—at all times an important factor—has by the preference it has shown for some time past for goods made from strong and luster wools curtailed somewhat the use and retarded the recovery in value of merino wool.

The exception alluded to—"increased production"—must be omitted this time from the long list of influences making for depression; production for a time at least having been effectually checked. Forced to take action through the impossibility of disposing of their surplus stock and recognizing that drastic measures alone could bring about a healthier state of things, squatters have had recourse to the old system of boiling down, and in addition have restricted in many instances the number of ewes put to the ram. All this means less wool and, it is to be hoped for pastoralists' sakes, more remunerative prices. That the measures which they have adopted have already borne fruit may be seen by the export figures for the year just ended, showing a nominal increase of less than 1 per cent on the returns of the preceding season. Twelve months hence, it is confidently asserted in some quarters, the statistics will have to record a positive decrease.

From the colonial point of view the past wool season has been, in one sense, the most successful on record, more wool having been sold in the local markets at prices leaving slight margin for profit or involving, in not a few instances, absolute loss than in any former year. In this extension of the volume of local business New South Wales has taken a decided lead, very nearly as much wool having been sold in Sydney as in Melbourne, Geelong, and Adelaide combined. Nearly one-half of the wool clip of Australasia has changed hands on the spot, and everything goes to show that this mode of dealing with our staple article of production will assume ever-increasing dimensions. Year by year the European-continental demand becomes more and more the dominant factor in the Australasian wool market. In this demand, of which for many seasons France was the principal exponent, Germany has now assumed the lead, the result no doubt of the boldness with which German spinners and manufacturers have entered the manufacturing lists with the latest improved machinery during

the past decade. What is still more surprising is the fact, said to be indisputable, that of the purchases made by French buyers a very large proportion is on German account.

Commencing with fairly representative catalogues in the third week of September, the season gave promise of being quite the earliest on record. In accordance with the axiom that it is the unexpected which always happens, this promise was not fulfilled, heavy rains delaying and protracting shearing operations beyond all reasonable expectation. The result was naturally a tremendous rush of wool in December, which nothing but the readiness of owners to meet the market prevented from becoming a deadlock. A reduction of from 5 to 10 per cent on the opening prices of the season 1891-'92 was at once cheerfully accepted, and led all through the season to such a clearing of catalogues and relief of storage accommodation as had never been witnessed before. But for the check given to buyers by the news cabled from London during the progress of the November sales prices, it is certain, would have steadily improved. As it turned out, the November London shrinkage exercised for buyers in this market a salutary, for sellers a disappointing, influence, the net result being great market steadiness for the rest of the season.

Of the general appearance and condition of the clip so much has been written and said in its favor that to differ from the general consensus of opinion may savor somewhat of presumption. The writer of these lines, however, has the courage of his opinion and has no hesitation in declaring that, with the exception of "quality," there was no feature in the wool clip of 1892-'93 specially to recommend it. So much fine-haired wool was probably never seen before, nor was good combing ever so scarce. A statement put forth by one of the leading Sydney selling brokers that one hundred fleeces of last season's clip could be packed into a bale, well filled in ordinary seasons with eighty fleeces, goes far to show that the clip generally was poor and thin and not likely to give as a whole the excellent *rendements* of the previous two seasons.

One of the features of the past season was the comparative reserve of the American buying contingent, influenced, no doubt, by impending tariff changes and the prospect of "free wool." Much—perhaps too much—is hoped from the looked-for remission of the high duties on wool hitherto imposed in America on Australian wool. Is it quite so certain that free wool in America will mean so much as Australians think? The high duties now charged have compelled American buyers to restrict their purchases to wools giving the highest *rendements*, and for these descriptions they have never hesitated when in the vein to pay fancy prices. Abolish the duties and the American buyer will stand on the same plane as his European competitor; he will cease to be a specialist and will buy as Europeans buy—what he thinks cheapest. It may be that medium and inferior wools will benefit by the change, if change there is to be, but it is all but certain that the best descriptions will suffer.

Encouraged by the success which has attended the efforts of New Zealand sheep-breeders to find an outlet for their surplus stock in the shape of frozen meat, many—perhaps too many—New South Wales squatters are turning their attention to long-wooled sheep in the hope of producing an animal that will enable them to secure a footing in the European meat markets. That here and there there are districts in New South Wales where crossbred sheep can be successfully and profitably reared can not be questioned, but that the crossbred sheep is adapted to, or is likely to thrive on, the soil and under the climate of New South Wales is open to very grave doubt. The crossbred sheep is a gross feeder and a bad traveler and fitted, as the fleece on his back shows, for a moist, cold country, where the sun has less power and the feed is more succulent. Small farmers who can give their stock lucerne and artificial food and keep them in small paddocks may possibly find the crossbred sheep a more profitable animal than the merino. But on large stations, where sheep have to earn, so to speak, their own living and where very frequently they are on short commons, the merino will thrive where the crossbred will fall away. In the face of the present abnormally low price of merino wool and of the difficulty of disposing of surplus stock the temptation, no doubt, is very great to strike out on the lines laid down by New Zealand squatters, but it must never be

forgotten that low prices can not last forever; that prices can be made higher and surplus stock more valuable by the simple expedient of restricting production; that Australia is *par excellence* the home of the merino type; and that fashion, which for the present restricts to some extent the demand for fine wool, may change in a moment.

HENRY AUSTIN.

Australasian wool export for last two seasons.

Colony.	1892-'93.	1891-'92.	Increase.	Decrease.
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
New South Wales.....	631,888	624,219	7,669	
Victoria.....	451,579	466,898		15,319
Queensland.....	130,818	184,703	6,115	
South Australia.....	148,476	166,443		17,967
Western Australia.....	15,662	22,512		6,850
Tasmania.....	19,117	17,617	1,500	
New Zealand.....	345,926	308,861	37,065	
Total.....	1,803,466	1,791,253	52,349	40,136

Destination of Australasian wool shipments.

Season.	London.	Other ports in United Kingdom.	Continent of Europe.	United States.	India, Japan, and China.	Total.
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
1883-'84.....		(*)	50,758	22,575		
1884-'85.....	1,033,756	(*)	71,469	6,621		1,111,846
1885-'86.....	1,042,026	(*)	63,859	24,457	212	1,130,554
1886-'87.....	1,048,884	(*)	117,699	15,138	103	1,181,824
1887-'88.....	1,113,598	(*)	97,238	21,913		1,272,749
1888-'89.....	1,157,991	(*)	139,083	36,724	1,000	1,334,798
1889-'90.....	1,155,004	56,000	233,715	11,341	2,187	1,458,247
1890-'91.....	1,303,958	13,355	270,293	26,828	1,774	1,616,205
1891-'92.....	1,392,150	18,603	326,500	52,300	1,700	1,791,253
1892-'93.....	1,273,678	27,896	463,000	37,368	1,524	1,803,466

* No records kept.

Distribution of wool purchased in the Australasian colonies, season 1892-'93.

Bought for—	New South Wales.	Victoria.	South Australia.	New Zealand.	Total.
	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>	<i>Bales.</i>
Germany.....	135,000	97,000	6,000		238,000
France.....	105,000	62,000	22,000		189,000
Belgium.....	19,000	10,000	3,000		32,000
Italy.....	419	362			781
Add New Zealand.....					2,000
Total, continent of Europe.....	259,419	169,362	31,000	2,000	461,781
United Kingdom.....	81,000	76,000	15,650	28,000	200,650
United States and Canada.....	3,718	32,000	650	1,000	37,368
Japan and the East.....	524	1,000			1,524
Local consumption, scourers, and speculation.....	15,339	32,638	7,000	54,000	108,977
Grand total.....	360,000	311,000	54,300	85,000	810,300

Number of sheep in Australasia.

Colony.	End 1892.	End 1891.
New South Wales.....	58,080,114	61,831,416
Victoria.....	12,928,148	12,919,428
Queensland.....	21,708,310	20,289,633
South Australia.....	7,500,000	7,646,239
Western Australia.....	* 1,700,000	1,962,212
Tasmania.....	1,664,118	1,662,801
New Zealand.....	† 19,170,000	18,128,186
Total.....	122,750,690	124,439,915

* Estimated.

† Estimated on April 30, 1893.

Total number of sheep in Australasia for the past nine years.

Year.	Number.	Year.	Number.
1884.....	78,247,583	1889.....	100,806,019
1885.....	82,719,080	1890.....	110,130,600
1886.....	84,830,301	1891.....	124,439,915
1887.....	96,268,675	1892.....	122,750,690
1888.....	96,881,835		

CHANGES IN THE NORWEGIAN TARIFF.

At the last session of the Storting, adjourned a month ago, several alterations of the tariff were made which went into effect July 1 last. The tariff of export duties was altogether abolished. I append a list of the alterations, with the old and new rates of the tariff:

Changes in the Norwegian tariff.

Articles.	Unit.	Old rate.	New rate.
Animal food (meat and pork, all kinds):		<i>Kroner.</i>	<i>Kroner.</i>
Smoked.....	Kilogram.....	0.20	0.20
Unsmoked—			\$. 0536
Hams.....	do.....	Free.	.10
Other.....	do.....	Free.	.0268
Buttons (all kinds, covered excepted, and button forms, the weight of paper, cardboard, and similar material included).....	do.....	.35	.50
Canes of all kinds for walking, for umbrellas and parasols, and all sticks other than those that have been cut into certain lengths.....	do.....	.35	.50
Cotton, manufactures of (blondes, bobbinet, laces, and tulle).....	do.....	2.50	3.00
Earthenware and clays, manufactured:			.804
Pottery, common—			
Unglazed and unpainted.....	do.....	Free.	Free.
Other.....	do.....	.033	.033
(Tare: Baskets, 25 per cent; casks, barrels, and cases, 35 per cent.)			.0088
Falence.....	do.....	.07	.10
(Tare: Baskets, 30 per cent; casks, barrels, and cases, 40 per cent.)			.0268
Porcelain and biscuit.....	do.....	.23	.35
(Tare: Baskets, 30 per cent; casks, barrels, and cases, 40 per cent.)			.0938

Changes in the Norwegian tariff—Continued.

Articles.	Unit.	Old rate.	New rate.	
		<i>Kroner.</i>	<i>Kroner.</i>	
Fats and tallow (lard).....	Kilogram.....	Free.	0.04	\$0.0107
Feathers and downs (ornamented feathers).....	do.....	2.50	10.00	2.68
Flowers, artificial.....	do.....	2.50	10.00	2.68
Parts thereof:				
Leaves of paper.....	do.....	.13	1.00	.268
Other.....	do.....	2.50	10.00	2.68
Glass and glassware:				
Plates and dishes—				
Silvered.....	do.....	.23	.30	.0804
Unsilvered, polished, colored, gilt, varnished, etched, obscured, figured.....	do.....	.13	.15	.0402
(Glass beads set in gold or silver are to be weighed together with the setting and dutiable as such.)				
Hair, manufactures of:				
Brushes (including brushes of wire)—				
In wood or metal.....	do.....	.13	.13	.0348
In horn or other materials.....	do.....	.46	.46	.1222
(The brushes are to be weighed together with the interior packing.)				
Hats and caps:				
Hats of silk or with artificial flowers for women and children.....	Each.....	2.50	2.50	.67
Hats and caps, finished and unfinished—				
Of all kinds of felt, of woollens (knit goods ex- cepted), also hats and caps made up in whole or partly with furs, all of which, with or without boxes of cardboard.....	do.....	.40	.50	.134
Other.....	do.....	.80	.80	.2144
Instruments, musical (organs).....	Ad valorem.....	8 per ct.	10 per ct.	
Lamps and parts thereof (with the exception of lamp chimneys, shades, and globes, which are subject to a special duty), candelabras, scones, and chandeliers, and parts thereof:				
Gilt, silvered, or plated.....	Kilogram.....	.70	.70	.1876
Other.....	do.....	.35	.35	.0938
Kitchen lamps, weight of boxes included.....			.35	.0938
Linen, hemp, manilla hemp, gunny, jute, Chinese grass, and similar spinning materials and articles thereof (laces, edgings, and tulles—as similar articles of cotton).....	do.....	2.50	3.00	.804
Licorice (licorice juice), with or without addition of other stuffs.....	do.....	.46	.40	.1072
(Tare: Cases, 20 per cent.)				
Looking-glasses.....	do.....	.23	.30	.0804
Mead.....	do.....	.07	.20	.0536
Manufactures of metal:				
Safety pins, including the paper to which they are affixed or in which they are wrapped.....	do.....	.35	.53	.142
Gold, silver, platina (plates, pressed, unpolished).....	do.....	.64	Free.	
Other manufactures of gold, including what is within the setting.....	Hectogram.....	.64	1.00	.268
Paper, manufacturers of (playing cards).....	Pack.....	.05	.08	.0214
Pipe bowls, pipes, pipe stems, mouthpieces for cigars, of any material, with or without mountings, and other ap- purtenances, and with or without cases:				
Clay pipes.....	Kilogram.....	.07	.07	.0187
Other, with the interior packing.....	do.....	.35	1.00	.268
Potatium, including the weight of the interior packing (paper, glass, jar, and similar packing).....	do.....	.35	.50	.134
Salt for cooking, crude and refined.....	Hectoliter.....	.28	Free.	

Changes in the Norwegian tariff—Continued.

Articles.	Unit.	Old rate.	New rate.	
Silk and manufactures thereof, and manufactures of other spinning materials combined with silk:		<i>Kroner.</i>	<i>Kroner.</i>	
Sewing, twist and not twist.....	Kilogram.....	2.00	2.00	\$0.536
Laces and tulle.....	do.....	10.00	10.00	2.68
Other articles of silk.....	do.....	5.00	5.00	1.34
Articles of mixed, of which other materials are the component. (Other, as manufactures of silk alone.)	do.....	3.00	4.00	1.072
Skins and hides, without hair on (shoemaker work):				
Of silk cloth or cloth of which silk is the component.....	do.....	2.35	2.35	.6298
Of other cloth or of morocco skin, cordovan, glazed or colored skins, combined with or without other skins.....	do.....	1.45	2.00	.536
Of other kinds of skin or leather and felt—				
With wooden soles.....	do.....	.25	.25	.067
Other.....	do.....	.95	1.00	.268
Starch and starch gum (dextrin), with the interior packing.....	do.....	.33	.05	.0134
Stone and manufactures of:				
Natural and imitation, polished— (Set in gold or silver are weighed together with the setting and dutiable as such.) (Jewelry in or without combination with other metals than those enumerated above as jewelry under metals.)				
All other kinds (including school slates and slate pencils, plaster, chalk, cement, moldings, and forms of cement, plaster, chalk, or similar articles; also pulverized, ground, washed, or otherwise prepared stone).....		Free.	Free.	.....
Straw, manufacturers of (excepting flowers, mats, and hats).....	Kilogram.....	.93	1.00	.268
Tobacco (cigars and cigarettes).....	do.....	3.60	3.60	.9648
(Tare: Cases, 27 per cent. No tare allowed for paper boxes, etc., used as wrappings for cigarettes. The boxes, etc., are dutiable according to material.)				
Varnishes, other than spirit.....	do.....	.55	.10	.0268
(Tare: Metal packing, 8 per cent.)				
Watches (bracket clocks).....	do.....	(*)	1.00	.268
Wood, manufactures of:				
Cups, boxes, frames for cruets (<i>plats de ménage</i>), work-boxes and razor cases, carved wood and similar small articles, provided that the weight of each piece does not exceed 1.5 kilograms.....	do.....	.23	.40	.1072
Bands and frames.....	do.....	.10	.23	.0614
Turners' work, mounted or unmounted, rings, and similar articles, combs (also of cocoanuts or other nuts), all kinds—				
Unpolished.....	do.....	.13	.15	.0408
Polished, penholders of wood, combs, including the interior packing.....	do.....	.35	.50	.134
All other wood not otherwise provided—				
Raw.....		Free.	Free.	.....
Manufactured.....	Kilogram.....	Free.	.03	.008
Wool, manufactures of (edgings, bobbinet, laces, and tulle as similar goods of cotton).....	do.....	2.50	3.00	.804

* 1 to 8 kroner, according to weight.

Some additional changes will also be made when the commercial treaty concluded between Norway and Spain goes into effect, which will take place before the end of the current calendar year. The alterations are as follows:

Articles.	Unit.	Old rate.	New rate.	
Almonds.....	Kilogram.....	<i>Kroner.</i> 0.80	<i>Kroner.</i> 0.05	\$0.0134
(Tare: Linen packing, 4 per cent; casks and barrels, 17 per cent.)				
Fruits (tree fruits):				
Fresh—				
Oranges, lemons, limes, etc.....	.....do.....	.07	.02	.005
(Tare: Cases, 22 per cent.)				
Grapes.....	.....do.....	.07	.02	.005
(Tare: Casks, barrels, and cases, 33 per cent.)				
Dried—				
Figs.....	.....do.....	.30	.05	.0134
(Tare: Casks, barrels, cases, and cans, 15 per cent; baskets and mats, 6 per cent.)				
Raisins.....	.....do.....	.12	.08	.0014
(Tare: Casks and barrels, 14 per cent; cases, 20 per cent; earthen pots, 30 per cent.)				
Nuts (hazelnuts).....	.....do.....	.33	.05	.0134
Vegetables, natural and in salt, including the weight of packing (melons).....	.....do.....	.50	.02	.005

GERH. GADE,

Consul.

CHRISTIANIA, August 29, 1893.

INCREASED DUTY ON LIQUORS IN COSTA RICA.

I inclose extracts from the decree promulgated August 20 increasing the duty on liquors.

HARRISON R. WILLIAMS,

Consul.

SAN JOSÉ, August 13, 1893.

DECREE.

ARTICLE 1. The actual price of the national liquors which are sold in the public establishments of this branch of the Government service is increased 20 per cent.

ART. 2. Likewise the duties, according to the tariff upon foreign liquors, are increased in the following form: Cognac, whisky, cordials of every class, and all the liquors of lawful introduction, in barrels or demijohns, pay to-day \$0.80 [32 cents in United States gold]; must pay \$1.05 [42 cents in United States gold]; difference, \$0.25 [10 cents in United States gold]. The same in whatever other way of packing pay to-day \$0.60 [24 cents in United States gold]; must pay \$0.80 [32 cents in United States gold]; difference \$0.20 [8 cents in United States gold]. These additional duties will begin to have effect upon the liquors of the country at the promulgation of this decree, and upon those coming from Europe and other places, thirty and twenty days afterwards, respectively.

GERMANY'S IMPORT OF GRAIN.

I submit tables showing the origin of the grain imported into Germany during the period 1888-'93:

Import of grain into Germany during the years 1888-'93.

Whence imported.	Wheat.	Rye.	Oats.	Barley.	Maize and dali.
1888.	<i>Double cent.</i>	<i>Double cent.</i>	<i>Double cent.</i>	<i>Double cent.</i>	<i>Double cent.</i>
Russia	1,539,964	4,704,300	1,357,574	1,181,941	158,236
Austria-Hungary	1,205,817	118,542	110,951	2,217,552	163,672
United States					109,334
Roumania	84,308	66,674			72,355
1889.					
Russia	3,045,521	9,346,575	2,386,376	3,126,403	672,085
Austria-Hungary	1,347,252	160,545	93,482	2,808,083	269,169
United States	24,114	50,117	575	12,472	1,632,256
Roumania	254,793	319,817	4,013	245,364	247,446
Turkey		87,523		52	3,624
Argentine Republic and Patagonia	200				
British East Indies	814				
1890.					
Russia	3,761,616	7,552,981	1,753,798	3,665,937	696,624
Austria-Hungary	1,111,831	87,178	17,283	2,708,124	137,154
United States	519,884	209,244	25,676	12,175	3,665,052
Roumania	617,997	337,436	9,332	475,998	476,664
Turkey	4,010	178,906		11,021	52,277
Argentine Republic and Patagonia	77,618				
British East Indies	9,380				
1891.					
Russia	5,158,635	6,203,912	1,036,609	2,943,980	996,284
Austria-Hungary	751,579	389,271	103,555	3,098,166	765,707
United States	1,435,391	643,271		122,409	1,162,602
Roumania	428,529	232,696		526,084	606,102
Turkey	24,227	295,375		30,748	36,939
Argentine Republic and Patagonia	123,968				
British East Indies	241,071				
1892.					
Russia	2,573,391	1,233,874	79,639	1,770,752	269,774
Austria-Hungary	456,730	343,576	607,485	2,635,568	826,840
United States	6,302,130	1,361,291		102,936	4,476,036
Roumania	917,850	268,176		773,035	620,915
Turkey	202,781	861,132		28,999	45,789
Argentine Republic and Patagonia	661,697				
British East Indies	509,081				
1893 (6 months).					
Russia	87,949	221,621	9,615	694,442	42,337
Austria-Hungary	112,024	1,207	240,208	1,334,382	130,298
United States	1,524,475	105,588	14,911	5,766	858,178
Roumania	707,572	118,967	133,221	697,440	800,018
Turkey	27,258	134,249	41,749	10,101	130,004
Argentine Republic and Patagonia	600,093				
British East Indies	12,644				

NOTE.—1 double centner = 220 pounds.

W. H. EDWARDS,
Consul-General.

BERLIN, August 31, 1893.

CHINA'S IMPORTS AND TARIFFS.

I inclose clippings from the Shenpao and Hupao (with translations) bearing upon the foreign goods trade of China and the likin.

As both of these articles are editorials, they show the tendency of the Chinese towards the adoption of foreign ideas and inventions, and, as both these papers are extensively read throughout the Empire by the official classes, there is no doubt that they are doing much to overcome that conservatism that so long has been a barrier to foreign intercourse.

The subject of likin is one of great importance, not only to China, but to all countries doing business here, and the abolishing of that system as now operated will do more than any other single act to open this vast market to the world.

JOHN FOWLER,
Consul.

NINGPO, *August 16, 1893.*

FOREIGN GOODS.

[Translation from the Hupao.]

* * * * *

In regard to the import of general foreign merchandise to China, it is impossible to enumerate all the different articles. The Chinese greatly appreciate them all, so that the amount expended on foreign goods by Chinese annually reaches into millions of taels. In former times this outflow of treasure was more than met by China's export, but now the balance is entirely in favor of the foreigners. The reason for this is because the Government is adopting foreign methods and the literary classes are pursuing foreign studies. Thus a new taste has been developed far and wide for foreign inventions. Steamers, arms, telegraphs, and railroads are claiming the attention of the upper classes, and the people at large are greatly interested in machinery, electric lights, matches, and kerosene, while such articles as foreign cloth (cotton and woolen), blankets, clocks and watches, glasses and various toys, lamps, and candles meet with universal favor and patronage. Even such small articles as needles, pins, earrings, and hairpins the Chinese ladies prefer to those of native make as being more fashionable and beautiful. As a natural consequence, the foreign cloth has almost supplanted the native cloth. The same may be said of foreign lamps, needles, and pins, which goes to show the almost universal liking for foreign goods.

Those who are engaged in foreign business or in any way connected with foreigners invariably adopt the foreign in their house and person, using foreign furniture, wearing foreign fabrics, and eating and drinking foreign food and wine. Consequently general storekeepers of foreign goods invariably do a thriving and profitable business in almost every port of China, but especially at Shanghai; as a result the native trades here suffer greatly. In looking back thirty years the artisans of Shanghai used to pursue each his vocation, handing the same to the next generation, while the storekeepers, both inside and outside the gate, were as thick as bees in a hive. At present the number of stores has been reduced at least one half, while with the artisans the reduction is still greater; but, at the expense of native trade, those engaged in dealing in foreign goods have increased proportionately. The general

introduction of foreign goods into China is not without great benefit. Since the introduction of kerosene the cost for illumination has been greatly reduced, while matches have superseded the Chinese flint and steel, and the lighting of streets at night by electricity is a great boon to pedestrians. While the introduction of machinery in shipbuilding, making guns and rifles, telegraph, railroads, printing by means of movable type, * * * have had the effect of not only saving labor, but of increasing the production and at the same time raising wages and reducing the cost of the manufactured articles. Thus we see that foreign goods not only supply a general demand, but are actually cheaper. In regard to tea and silk, if greater attention is paid to their preparation, the foreign demand would extend and increase with proportionate profit.

REDUCING THE NUMBER OF LIKIN STATIONS.

[Translated from the Shenpao.]

The establishment of likin barriers was organized at the time of the Taiping rebellion. At its inception the regulations, as well as the persons employed, proved satisfactory, and more than half of the enormous funds, amounting to many millions of taels, to prosecute the campaign against the Taiping rebels were derived from this source; in fact, it was to the substantial aid furnished by this means that the successful issue of the war may be ascribed.

After the rebellion (contrary to general expectation) the likin barriers were not abolished, but rather augmented with a more defined tariff and increased duties, the general superintendence devolving upon the provincial governors, who distributed their patronage to the great army of "expectants," who came to consider a likin office a sinecure.

The high authorities were pleased in proportion to the amount of duty collected by those under them, which naturally incited the latter to outdo each other in getting as much as possible, since the money-getting capacity was regarded as a criterion of their abilities.

Of the amounts thus collected only about half goes to fill the public treasury; the other half finds its way to private purses. The above does not include the exactions and extortions of the underlings, whose negotiations are beyond the pale of legitimate taxation.

The mercantile classes undergo and contend against all sorts of risk and danger in their ventures for the sake of gain, but by the operation of these innumerable "barriers" not only are the profits of the merchants in danger, but sometimes his very principal is in jeopardy on account of the rapacity of the likin officials. Merchants consequently, in order to escape these onerous exactions, cleverly employ the names of foreigners when they wish to purchase and transport goods from one province to another, as by so doing they succeed in avoiding six to seven tenths of the duties. As a result the likin stations suffer in their revenues, and, in order to make up the deficiency thus caused, likin officials are compelled to exercise greater stringency and be more extortionate than ever, invariably exacting the full, and often more than the full, dues. Such a condition of affairs can not but be a source of extreme hardship to the merchants.

* * * * *

Delay in the transportation of goods is fatal to a merchant, and the likin system is exercised in such a manner that merchants who are in any way weak will comply with all the extortions of the likin rather than be subjected to the malicious obstructions of the likin office, causing delay and ruin; but sometimes it happens that merchants will stand up for their rights and combine to resist the officials, frequently even resorting to such extreme measures as mobbing the latter and totally demolishing the "barriers."

Some years ago the governor at Soochow, named Ting, memorialized the Throne on the subject of likin and showed that the officials then in charge of the likin stations were regular robbers; since then twenty years have elapsed, and the condition of affairs has constantly grown worse. Is it not high time for the servants of the Government to devote serious con-

sideration to this subject? But some one exclaims: "The foreign nations have still a higher tariff, exacting duties from even the smallest articles; why, then, should such exceptions be taken to the likin?" Such an assertion can only be made by one who is not thoroughly conversant with the foreign system of collecting revenue, where every duty is established by law with no underhanded practices of any kind in its enforcement, and the tariff is so arranged that the high duties fall on luxuries alone, while the duty on the necessities of life is very light or duty free. Moreover, the duty is *ad valorem* and the percentage collected as duty is fixed, so that an indiscriminate exaction is impossible. This may be learned from the books sent to China by her ministers abroad, as well as by the published regulations of the foreign nations themselves.

The Chinese imperial maritime customs have been established at more than half of the ports of China, and if the question was submitted to a hundred merchants at random whether it is easier and more satisfactory to deal with the customs or the likin office, all would declare in favor of the former. Why? But the same person again exclaims: "But the board of revenue depends upon the proceeds from likin, and, although the high authorities are perfectly aware of the evils of the likin, yet, should it be abolished, how will the public exchequer be filled?" Such a view is superficial and does not touch upon the root of the evil. It has been claimed by some merchants that if the likin stations were not so harassing they would be quite willing to deal with them, but where the station is very stringent and places unnecessary obstruction in the way the merchant uses every means to evade that station. When it shows a disposition to be considerate the merchant is willing to deal with it and pay the duties required, consequently that station receives more revenue than another that is inconsiderate and extortionate in its demands. This state of affairs shows the necessity of abolishing the many small stations, as it is at these that the chief obstructions to trade are felt; and only the stations at the chief marts should be retained and the duty (likin) be collected at these once for all, irrespective of the final destination of the merchandise. Such a course would not tend to reduce the revenue, but, on the contrary, it would increase the sum total and at the same time benefit the merchants and increase the real prosperity of the Government.

* * * * *

TRAMWAYS IN CAIRO.

The Egyptian Government has decided to authorize the establishment of a system of tramways in Cairo and its environs. I inclose copies of the official notice issued by the Minister of Public Works stating the conditions on which the concession will be granted.* The introduction of tram lines would improve to a great extent the methods of transportation and communication in Cairo, and, if demonstrated a public convenience, a similar concession for Alexandria would doubtless be early decided upon.

The matter is already attracting the attention of European capitalists and engineers, and it may safely be predicted that there will be some competition to secure the franchise.

The permanent population of Cairo is roughly estimated at 500,000, of which 30,000 are Europeans. In the winter season the latter figures would be greatly augmented by the influx of travelers.

Possibly the Department may deem this a matter of sufficient importance to be given to the press, for the benefit of Americans who might wish to

* Filed in the Department.

examine the feasibility of the enterprise with a view of competing for the concession. I venture the opinion that American electrical engineers could furnish a system of traction comparing favorably with any that will be submitted by Europeans. As stated in the official notice, bids will be received by the Minister of Public Works, Cairo, until the 1st of February, 1894.

FREDERIC C. PENFIELD,
Agent and Consul-General.

CAIRO, August 30, 1893.

THE GERMAN HOP CROP OF 1893.

[Second report.]

The first report of this series (dated August 21), announced the beginning of the hop harvest in southern Germany and gave as the consensus of the best commercial judgment then available an estimated yield of 32,500,000 metric pounds for the whole of Germany, as against 48,200,000 pounds, which has been the hitherto accepted aggregate of the German hop product of 1892. Since then the official returns of last year's harvest have been for the first time published, showing the area of cultivation to have been 107,381 acres and the exact yield 49,029,000 metric pounds.

Meanwhile the intervening twenty days have completed the ripening and harvesting of the crop of 1893, and, although precise statistics will not be accessible before December, enough is now definitely known to determine the quality of this year's product in the German Empire and its influence on the general market.

As to quality, it may be said almost without qualification that the crop just harvested is one of the very best that has been gathered in recent years. The weather during the past three weeks has been for the most part all that could be desired, and, except in the districts where the hot, dry days of July and early August, alternating with the heavy "honeydews" that fell during that period, caused more or less of "black blight" among the vines, the quality of the crop is of high and uniform excellence.

But, in respect to quantity, the yield of Germany proves even more disappointing than was predicted at the opening of the harvest. The characteristic that was noted as ominous in the former report—that the hops were mainly at the tops of the vines and thus gave an outward impression of profusion which subsequent picking would fail to confirm—proved so general and wide reaching that in many districts where a full half crop was counted upon the actual yield has fallen far below that amount. It was found, moreover, that the rains which began in the latter days of July had come too late fully to rescue the vines from the effect of the drought of the preceding three months, and that, though the vines had indeed improved in color and vigor and had blossomed liberally at the extremities, they were in general stunted and of meager spread as compared with the luxuriant growth of

ordinary years. Even in the famous "Spalter-Land" of Bavaria, where the finest hops in Europe are grown, the yield will not exceed a quarter crop. Baden, Alsace, and the Altmark district report only a third of an ordinary harvest, and Würtemberg and Lorraine only a quarter of last year's crop. Making all due allowance for the tendency of farmers to exaggerate their losses in time of general disaster, in order to retrieve by high prices the deficit in quantity, the fact must be accepted that the German hop crop of 1893 will be by far the smallest that has been gathered for many years. The only European countries which make a satisfactory showing are Bohemia, which reports 11,500,000 pounds, against 9,000,000 pounds last year; Posen and East Prussia, with 2,400,000 pounds, against 1,500,000 pounds; and Holland and Belgium, with 8,000,000 pounds, against 7,400,000 pounds in 1892. With the single exception of Posen, every district and province of Germany is now estimated below the predicted totals that were given in the report of August 21, in which Bavaria was put down for 15,000,000 pounds; Würtemberg, Baden, and Alsace-Lorraine, collectively, for 13,000,000 pounds; and the remainder of Germany for 4,500,000 pounds. Until the official statistics are collected, the most trustworthy estimates are those of merchants of large facilities and mature experience, whose predictions are based upon special reports collected by their agents located in the hop-growing districts. As among the most careful and authoritative of these, there is selected for the present purpose an estimate recently made by Messrs. John Barth & Son, of Nuremberg, which has been furnished to this office by the United States consul in that city. In these predictions the total hop crop of 1893 in the various states and provinces of Germany is estimated as follows:

	Pounds.
Bavaria.....	12,500,000
Würtemberg.....	3,000,000
Baden.....	2,000,000
Posen, East Prussia.....	2,400,000
Altmark, etc.....	900,000
Alsace-Lorraine.....	4,000,000
Total for Germany.....	24,800,000
Germany's crop, 1892.....	49,029,000
Average, past 10 years.....	53,452,320

There is therefore in the German Empire an estimated deficiency equal to fully half of an ordinary crop. Instead of exporting, Germany must this year import largely to meet her own necessities; and already the markets of Bohemia are filled with German buyers, whose purchases will exhaust most of the available surplus in that country. Russia reports a slight increase over last year's product; but its quality has been more or less compromised by vermin and "black blight," and the strained commercial relations between that country and Germany will prevent any important relief to the German brewers from that source.

The report of Messrs. Barth & Son includes further the following estimates for all other hop-producing countries, which, for convenient comparison, are added to that of Germany and paralleled with the actual statistics of the preceding year :

Country.	1892.	1893.*
	<i>Pounds.</i>	<i>Pounds.</i>
Germany.....	49,029,200	24,800,000
France.....	4,700,000	2,400,000
Bohemia.....	9,000,000	11,500,000
Remainder of Austria.....	3,000,000	3,000,000
Belgium and Holland.....	7,400,000	8,000,000
Russia and all other countries.....	4,500,000	6,500,000
Continent of Europe.....	77,629,200	56,200,000
Great Britain.....	41,000,000	35,000,000
America.....	36,500,000	38,500,000
Australia.....	1,600,000	1,500,000
World's product.....	156,729,200	131,200,000

* Estimated.

The above situation is already accurately reflected in the prices which now rule in the hop markets of this country. Throughout Germany there is evinced but little disposition on the part of dealers to speculate or on that of brewers to lay in large stocks for future consumption. A comparison of the sales and prices which have been recorded in the market of Nuremberg during the first ten days of September in this and the two preceding years makes the following striking exhibit :

Time.	Sales.	Price per 100 metric pounds.
	<i>Bales.</i>	
September 2 to 11, 1891.....	3,500	\$16.66 to \$21.42
September 1 to 10, 1892.....	6,000	34.51 to 36.89
September 1 to 9, 1893.....	2,000	51.17 to 54.74

Add to this the impending increase of revenue tax upon beer manufacture in this country, and it will be apparent that the outlook for the German brewing industry is not encouraging.

FRANK H. MASON,
Consul-General.

FRANKFORT, September 11, 1893.

THE CORINTH CANAL.

The canal across the Isthmus of Corinth, connecting the Ionian and Ægean seas, or, more properly, the Corinthian and Saronic gulfs, was formally opened on the 6th of August. The event was celebrated by an imposing ceremony. Greek and foreign men-of-war and merchant vessels to the

number of thirteen passed through the canal and back without obstacle, thus proving its practicability. His Majesty the King of Greece made a short and earnest dedicatory address, in which he gave great credit to Gen. Türr, the modern projector of the enterprise, and to A. Matsas, its engineer.

The feasibility of piercing the Isthmus of Corinth by a canal was conceived six hundred years before the Christian era.

It was Nero who came nearer to effecting the modern realization than any other of the ancients. In the year 67 he put 6,000 Jewish prisoners and other laborers at work upon the isthmus. These were directed with so much zeal and energy that the successful termination of the task was in sight from its very beginning. But a revolt against Nero followed soon after, ending in the death of the tyrant and the abandonment of his projects.

In 1881 Gen. Türr was granted by the Greek Government the concession of digging a canal through the Isthmus of Corinth. The aid of French capital was enlisted, and the modern canal was begun over the route chosen by Nero. As Gen. Türr himself says:

It is the canal commenced by Nero and abandoned during eighteen centuries that we have finished to-day, in accordance with conditions and dimensions suitable to modern navigation.

The original company which Gen. Türr organized passed out of existence, and another one was formed by him. The capital of the present company is 5,000,000 francs, divided into 10,000 shares of 500 francs each. It is estimated that the annual transit through the canal will amount to 4,500,000 tons, paying 1 franc from the Adriatic and 50 centimes from elsewhere; 1 franc will be charged for each person. The canal is 6,540 meters long, 21 meters wide at the bottom and 21.6 meters at the surface, and 8 meters deep. The lease extends for ninety-nine years, and at its expiration the canal becomes the property of the Greek Government on the payment of 5,000,000 francs to the company.

The Corinth Canal will abridge by 185 nautical miles the route of vessels from the Adriatic bound for Constantinople, and will effect a saving of 95 miles in the case of vessels from Mediterranean ports. It will obviate the necessity of making the dangerous passage around Cape Matapan, and is expected greatly to facilitate commerce between Europe and the East. Austrian commerce, and chiefly the port of Trieste, will profit by it. The canal is not yet open to general traffic, but will be in a few weeks.

GEORGE HORTON,
Consul.

ATHENS, *August 15, 1893.*

STEAM POWER AND ELECTRICITY IN SWITZERLAND.

Just now Saxony, of which Chemnitz is doubtless the most important manufacturing center, is interested in the comparisons being made in Switzerland between steam-power plants and electricity gained by utilizing water.

It used to be urged that Switzerland's water supply, if properly utilized for obtaining electricity, would reduce very considerably her cost of production. Not only has she many streams, but they fall from such heights that even rivers of small volume have great power. "Millions of horse power are going to waste in these hills," was a common expression. "Switzerland had only to make sluices, put in wheels, lay wires, and get for a 'song' what other less-favored nations had to buy with enormous consumption of costly coal," was what even scientists said only a few years ago. The sluices were laid, dams made, wheels hung, and wires put down. What is the result? Every effort that science could suggest, ingenuity devise, or mechanics arrange was made in different cantons of the little Republic to gather electricity by, and transmit it from, her rivers and streams. The latest reports show that if Switzerland, or any country with streams and climate like hers, is to win her way into the world's markets and take a place in the front ranks it must be by some better method than the use of electricity gained and transmitted from rivers and waterfalls.

The following table, just published in Chemnitz, shows what 50, 300, and 500 horse power costs in England, Germany, Bohemia, and Switzerland per annum :

Country.	50-horse power.	300-horse power.	500-horse power.
England.....	\$24.24	\$12.58	\$9.88
Germany.....	29.21	15.52	13.51
Bohemia.....	27.50	14.74	12.97
Switzerland.....	46.82	29.61	25.54

Compared with the above, the cost of the same amounts of horse power of electricity transmitted 3.1068 miles (5 kilometers) in an air line in Switzerland, according to results published in connection with the foregoing table, is as follows: Fifty-horse power, \$30.88; 300-horse power, \$16.98; 500-horse power, \$12.54. But to this must be added the transmission cost, which will make the total as follows: Fifty-horse power, \$57.68; 300-horse power, \$31.27; 500-horse power, \$25.48.

How, at these rates, is it possible to turn from steam to electricity? How is it possible for a people using so uncertain and expensive a power to compete with England, Bohemia, Belgium, or Germany? It is only by building a big plant, 500-horse power at the very least, that electricity be-

gins to show any profit that would commend it as a substitute for steam. It is only then that its prices sink to those of the same amount of power yielded by its rival. The 50 and 300 horse power gained by steam, even in Switzerland, come cheaper than the same amounts of electric power produced and transmitted from the rivers. These facts may be disappointing, but there they are—the results of experiments.

Switzerland, with its freshets, its uncertain supply of water (for, though there may always be enough, there may at times be too much), its icy winters, its electrical disturbances during mountain storms, and its dangers from high-strained change currents, causing much inconvenience and labor in laying, caring for, and repairing the wires that carry the currents over long distances, is, after all, hardly the best place in the world for this experiment. What is true of Switzerland is true of other countries in the degree that these difficulties appear.

Add, then, to all these the necessity of keeping up a large reserve steam plant to carry on business when, from any of the causes cited, electricity fails. It is not claimed, however, that at all times and under all circumstances it will not pay to obtain power from streams and transmit it in the form of electricity. Where work is carried on day and night, in cases where the power is used also to supply light (which it does at very small cost), it can be made to take the place of coal at cheaper prices. Again, some streams are much better suited for electrical power purposes than others and are often much more easily utilized. Then, too, there are valleys and places wherein the transmitting plant need not be very long—less, perhaps, than 3 miles, or not even half a mile. In such cases the transmitting plant, which (see figures in the experiments made) increased the price almost double in the case of 50 and 300 horse power, and more than double in the case of 500, need be neither very large nor very costly. In the exercise of foresight, common sense, scientific knowledge, and skill, there is no reason why, with the many new inventions in the field, later experiments may not result in still further reducing the price per horse power. With our many rivers of large volume, there is no reason why the results should not be more favorable than those made among the Alps.

Just now the experiments being made in Switzerland are of vital interest to us whose mental efforts, if not practical experiments, are bending towards a utilization of the Niagara, Mississippi, Merrimac, and other streams for the purpose of supplying electrical power to the mills and shops of the United States.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *August 14, 1893.*

MONEY AND TRADE IN ADAMAWA.

[Translation of notes on commerce of Adamawa (Central Africa).—From the Bulletin de la Société de Géographie Commerciale de Paris, pp. 436-443.]

COWRIES, SALT, COINS.

Two thousand cowries are worth a small piaster—that is to say, 3.75 francs [72.4 cents]. There is no distinction as to size. At a given freight from Paris or from the English market at Yola there is a profit in buying the smallest size if there is much difference between its price and that of the large size. Cowries must compose nearly half the goods. They are the only money of these countries and of those situated on the south and east of Adamawa. There is not a sufficient quantity of them in the country, and its commerce is paralyzed by the want of currency.

Salt is not money, but it is much used as an article of exchange. The price of an article is never expressed directly in salt, because the ratio between salt and cowries is too variable. The Sultan speculates and depreciates or increases the value of salt in accordance with his needs and his cash in hand. At the beginning of October (1891) there was an opportunity of profiting by one of these changes and exchanging 10 sacks of salt in the market at an average of 24,500 cowries each; subsequently, in order to make up a caravan, it was necessary to buy asses at 30,000 cowries each, and there was difficulty in disposing of salt at 10,000 cowries a sack. Where two months previously only a little more than a sack of salt was required, it was necessary to give 3 sacks and some small article, such as a bell or looking-glass.

One must not try to speculate, but must be able to defend himself against the Sultan.

Recently the Sultan, learning that the Niger Company, which had a stock of cowries on board the storeship, was not issuing them, on account of their low price in the market (20,000 to 22,000 for a sack of salt), and was issuing nothing but salt, published an order forbidding those who should carry produce on board the storeship to accept anything except cowries in exchange. The company would have required a large quantity of cowries to give the Sultan enough of them to make him interested in causing a rise in the price which would yield a greater profit than the value of the cowries given, a calculation which might be made by an intelligent employé.

There are 800 small cowries to the kilogram [2.205 pounds], about 800,000 to the ton, representing a value of 15,000 francs [\$2,895], estimated by the value of the imaginary piaster. It would require not less than 80 tons for a single season. Messrs. Béraud and Daumas, who have traded in Dahomey, are the best experts on the subject. These cowries may be sent in casks, which would answer for sending back gum.

White English salt comes in sacks of 112 pounds, say 20 to the ton. It is in this way that the company issues it on the Niger and in Benuwe. It is only used by the inhabitants on the banks of the river and does not penetrate into the interior.

Sokoto, Koukaoua, Kano, and Yakoba continue to be supplied with rock salt by the caravans of Touareg, which work the mines. This salt exists also in Hamaroua, which supplied Yola before the coming of the Europeans. Though slightly earthy, it is more highly esteemed by the natives and commands double the price in cowries. The Touaregs bring it in the shape of loaves of 1 to 25 kilograms [2.205 to 55.1 pounds]. The usual traders—the Houssas, the Arabs, and the Foulani—complain of this shape, which is inconvenient for loading on beasts of burden or for carrying by men. They say that they ought to be put up like the cakes of sugar which the English sell on the Niger. To diminish the number of men required, which is greater for the small cakes, cakes of 25 pounds each might be made, with five breaking lines, as with chocolate, cutting half through the cake. These cakes might contain an admixture of pulverized gray salt if the difference between the price of the white salt and that of the pulverized gray salt is such as to yield a profit after deducting the cost of preparation. For the first season 2,500 sacks would be needed—say 125 tons of salt and 20 tons in bars—as an experiment. It would be rather expensive the first year, as the labor would be expended on too small a quantity; but the following years would compensate for it.

Coined silver is needed for remote trade—Bagirmi, Kanem, and also Kakoua. At Yola it will serve to offset the cowries. As already stated, 2,000 cowries are worth a small piaster, which is an imaginary coin. There are very few thalaris* in Adamawa; they are worn as jewels or used for bracelets or earrings. At present they are worth 4,000 to 5,000 cowries apiece. They will be given as money and as metal for the smiths. For the Bagirmi and the Kanem traders must carry only valuable merchandise and thalaris or douros.

The profits made by the Arab traders who might wish to return to their Barbary coast would be paid in thalaris at their intrinsic value of 5 to 5.55 francs [\$0.96½ to \$1.07]. The thalaris which are coined at Vienna are too dear. A contract made by the minister of finance for the colony of Obock a short time ago was at 172 francs a kilogram. Now thalaris can be procured from Lyon-Alemand at 167 francs a kilogram [\$33.20 per 2.205 pounds]. Their great wear, which takes nothing from their value, diminishes their weight and gives 101½ pieces, instead of 100 pieces—that is, 1½ per cent profit. In reality the kilogram [2.205 pounds] comes to 164.50 francs [\$31.75], and 60,000 to 80,000 francs in old thalaris or piasters might be found every year without having recourse to coinage, like the French and Italian Governments, who apply to Vienna.

* Marie-Thérèse thalaris (dollars), 1780 [96.5 cents]; douros, or piasters, with columns [72.4 cents].

METALS.

The metals consumed in Adamawa, as well as the forms in which they are received and the forms most suited for the special uses to which they are applied, may be described as follows:

Copper (pure red copper, brass).—In sticks 1 meter [39.37 inches] long and 2, 4, 6, and 8 millimeters in diameter [0.0688, 0.1576, 0.197, and 0.315 inch], in cakes 60 by 60.4 millimeters [0.2364 to 0.2380 inch] thick; little red copper, 1 to 5 with brass.

Tin.—Adamawa receives sticks of tin through Kano and Koukaoua. Jewelry, which is regarded as valuable, is made of it. The smiths use it to lower the standard of silver in the jewelry. Soldering is done with tin. For this use there would be a large profit made by bringing soldering.

Lead.—Lead is used for soldering coarse articles which can be thickened. The chief use made of this metal is for loading guns. When it becomes more abundant it will be of value for weighting fishing nets, seine nets, and sweep nets. For firearms it is better to bring the lead already prepared. The $\frac{3}{8}$ which I sold in the market was valued at 2,000 cowries per 1,000 grains. Bullets of .16 caliber are sold for 50 cowries, a very profitable price. It would be well to bring $\frac{3}{8}$ buckshot and bullets of .20 caliber, or small .16 at most. Most of the guns can not carry large .16; the smallest seam prevents the introduction of the projectile.

Gold.—Gold is not esteemed at its real value in these countries. According to the Touareg Ischekad, its ratio to silver among the Touaregs is $2\frac{1}{2}$. In Bagirmi, Kanem, and Bornu, the ratio must be less than 10 to 1, according to what the Arab merchants say. When there is an opportunity, it ought to be possible to exchange thalaris for gold; but no reliance must be placed upon this sort of commerce, on account of the small quantity of coined gold existing in Central Africa.

Silver.—Thalaris [96.5 cents.] or douros [72.4 cents].

Iron.—In bars 2 meters [2.22 yards] long and 4 by 10 millimeters [0.1576 to 0.334 inch] thick; soft iron; in tempered hoop iron for a two-fold use—for sale and for the manufacture of casks. As an experiment, sheet iron.

Zinc.—The natives now buy canning cases and boxes. They cut the metal in pieces and make saddle ornaments, bracelets, and rough rings of it. The Galaduna, or minister of war, has been seen to take the tins as soon as the cases were opened to cover the horses with them, in order to protect them against arrows.

CLOTHS.

White calico.—It must be remembered that up to the present time few European cloths have penetrated into the Soudan. All the way from Saint-Louis* to Khartoum there are fields of cotton, which have sufficed for native consumption and even for exportation to the Touaregs and the heathen tribes

* French Senegambia.

living to the south of the Soudan. The cloths are strong; they are better dyed than our trading cloths. From Timbuctoo to El Obeid European cloths do not enter into the native consumption. The Niger Company, faithful to its principles, has tried to force the same stuffs on the Lower Niger, Sokoto, and Adamawa. It has imitated only two kinds of Houssa cloth, and its experiment has not been crowned with success. At Lokodja 6 fathoms of the company's cloth are required for 2 fathoms of similar Houssa cloth; and, in fact, the native cloth is three times as strong and ten times better dyed. The weaving and dyeing industries are well developed in these countries and can compete with the European goods. The stuffs which ought to be imported are such as the natives can not manufacture with their distaff threads and their narrow looms and such as are dyed in colors for which they have no receipt; and, while ordinary cloth is needed for those who trade with the heathen tribes, cloths of good quality must also be imported to clothe the people who manufacture the wonderful robes sold at Kano and the people who have hitherto got their supplies from the Tripoli caravans. All those who pride themselves on being religious, dress in white. The company's "imperial croydon" does not bear washing, as it is too flimsy. In the countries of which we are speaking some soap is made and the linen is washed; for a stuff to be appreciated by the natives, who, it must not be forgotten, are experts, it must bear washing without injury and without losing its colors. Printed cottons not done up are highly esteemed. Their designs, unfortunately, did not suit the taste of the country. They grow prettier after the first washing. The natives count by double fathoms of four arm lengths. The arm length is exactly 50 centimeters [19.68 inches]; our French measurement is therefore good. The English stuffs are folded by the yard of 91 centimeters [35.83 inches] and in pieces of 8, 12, 16, and 20 yards. With the exception of the last, the pieces do not correspond to an exact number of arm lengths. Those of 12 yards, for instance, are only 10.9 meters [11.09 yards], or a little less than 22 arm lengths, instead of 24, which they are presumed to measure. The natives regard this as a cheat.

White calico.—Not done up, from 0.25 to 0.45. The price varies according to the quality and width. In pieces of 6, 8, 10, 12, 20, and 50 meters [6.45, 8.75, 11.94, 22.88, and 54.68 yards].

Muslin.—Greatly in demand for common turbans. In order to lower the price, its width might be diminished to 16 or 18 centimeters [6.3 to 7.08 inches] without changing the quality. Twelve arm lengths, or 6 meters [6.57 yards], are required for a turban. The natives make a fringe at each end. The proper way would be to end the turban at every 6 meters by a fringe 30 centimeters [11.8 inches] long, and put one or two red or green lines a few centimeters further on (like the napkins at 3 francs [57.9 cents] per dozen).

Guinea.—The company's pattern is sold for shirts and pantaloons. The very wide might be reduced to 75 or 80 centimeters [29.5 or 30.4 inches]. Both ought to be in pieces of 10, 15, 20, and 50 meters [10.92, 16.4, 22.12,

and 54.68 yards]. As an experiment, the cloth of the country ought to be imitated.

Glossed Guinea.—Is esteemed as highly as white calico. The company's is similar to that sold in Senegal. It is the *tobé* turban or *foutane* robe. As an experiment, the Houssa stuffs might be imitated. The latter are manufactured in pieces of 8 arm lengths [4.37 yards], which, owing to their width, are enough for a dress.

Fancy stuffs.—Twill or printed cotton, with a white ground, narrow stripes, reddish green, orange, or gold. That of the company with red stripes is the most acceptable of all its cloths.

Quilting, etc. (cotton flannel).—Quiltings for children's swaddling bands, damask with small figures, and cloth with figures would be very salable.

Cloth for burnoose.—Ladies' cloth at 5 francs per meter [96.5 cents per 1.337 yards] is too dear. The natives will not buy it at its value. The cloths received from the north have only one face and are rough to the touch. Three colors—purple, golden yellow, and green; purple preferred.

Figured ribbons, lace work, braid.—To line the inside of the burnoose and to braid the burnoose and the robes. All wool and silk or cotton and silk.

Silks.—Faille is not valued. The most salable article is satin made of silk and cotton at 1.75 to 2 francs per meter [33.8 to 38.6 cents per 1.337 yards], between Akassa and Yola. To this must be added the stuffs called "marocaines" and light silks, to be sold by sample. As in the case of the cotton cloths, white, or red or green stripes on a white ground; no figures or squares. Algerian stuffs, wool and silk; Martinique handkerchiefs, striped or plain.

Embroidering silk.—Medium quality, silk and cotton, but well dyed, as the embroideries have to be washed with the *tobés*.

Worsted.—Same use. Green, bottle green, and *bouton d'or* are the colors most in demand. They are used for the robes; also white for the *gandourahs*, or shirts, and some shades of deep red and sky blue for the trousers, boots, and saddles. Shaded silk is used for the same purpose.

Cotton for embroidering and weaving.—Light wine lees is a favorite color with the natives. They put it in their fancy stuffs; but, as they have not the secret of the dye, they buy skeins of cotton of that color from the company.

Turbans.—From 2 to 20 francs [38.6 cents to \$3.96] apiece for Bornu and Kano.

Velvet.—German velvet, all cotton.

MISCELLANEOUS.

The ornaments in most demand are Venetian pearls for women's head-dresses; the pearls called "anguenzi" for the belts of women of all classes; pearls and earrings made of carved metal or cut glass for the ears and nose.

Looking-glasses in small quantity.

Hand bells and hawks' bells are sold in large quantities at Mouri and Kano ; a few in Adamawa for the southern tribes.

Razors, a small and medium quantity.

Knives (machetes) of short and wide pattern for agricultural purposes.

Sabers in imitation of the sabers of the country. The sabers are badly welded, because the iron used by the natives is too soft.

Flintlock guns.

Flints, one pattern for guns and one for steels (for striking a light).

Pieces of steel in the shape of horseshoes.

Powder in small kegs.

Perfumed oil, toilet soaps, pomatum, and essences.

Balsam (benzoin) in pieces ; (lozenges) for the seraglio.

Camphor, in large quantities ; from 30 to 100 kilograms [176.4 to 210.05 pounds].

Cloves and cinnamon.

Plates and bowls of wrought iron and crockery.

Saucepans of wrought and cast iron,

Kettles, copper.

Sirups.

Coffee and Yapana tea.

Sugar, in 1-pound cakes. Those of the company come from Marseilles.

Chocolate.

Long needles for mending and for mattresses.

Rings for the ears (Britannia, plated).

Amber of every quality and price.

Rings for the arms of covered tin or copper.

Arm rings and leg rings of varnished copper ; a hollow tube, with pieces of lead inside.

Glass rings in imitation of Bidah work.

Dye for the beard, such as can be easily applied.

Cuirasses.

Helmets.

Coats of mail.

Tobacco in rolls and in leaf (as an experiment).

Fez caps and *chechias* of all sizes and shapes.

Strong padlocks, screw rings, claw hinges, and locks.

Boxes of whitewood, with feet, so as to be set up anywhere.

Teakettles and coffee filters.

Matches, Swedish.

Pipes of red earth, reed stem, brownish red, called Marseilles pipes ; dark-brownish red, with Algerian gilding.

Carpets for bedside.

Counterpanes, cotton.

Wax candles.

Burnooses, ready-made, Algerian goods.

Rosaries of plain wood and of inlaid wood.
Korans of various prices.
Religious books, Psalms of David.
Paper in the style of the last century.
Belts, red serge.

THE GERMANS SEEKING FOREIGN TRADE.

The Germans, satisfied that there can be no very profitable growth of machine building in the Empire unless an export demand is created, are seeking ways and means to bring this about. The home supply is now much larger than the home consumption or demand. Machines made in England have already given place to machines made here. Machines made or patented in America are imitated in Berlin, Mannheim, Magdeburg, Barmen, and Chemnitz. Nothing useful or practical escapes the imitative capacity of the German people. The best stocking-knitting machine in the world was invented in the United States, yet Chemnitz has supplied mills in America within three years with complete outfits of stocking-knitting machinery.

The present time is full of plans to open up foreign markets to German machines. This is due to their success at Chicago. England last year exported \$70,488,000 worth of machinery, while Germany's export amounted to \$14,280,000.

Our exports, as yet, play no very great part. About us the German speculates little. He is, however, honest enough to admit how dangerous we might be, and undoubtedly would be, if our manufacturers could find markets for their machines and tools.

"Now is the time," say leading technical and scientific papers, "when the world rings with our fame, when the world's best qualified judges yield us the palm, to go out and get a big share of the world's markets. How better obtain the full benefit of the great exhibition? If we would be benefited by this advertisement, we must push forward. The value of an exhibition only begins when the prizes are drawn. These pay no bills. It is the orders that are obtained and filled that pay. It is to get these that we exhibit or advertise. What is to be done? Those who know foreign markets best, especially those of Africa and South America, say that the best way to succeed in, or even make headway toward, securing those markets is by giving the people not what we deem best, but what they deem best—what they want; and the only safe way to find out what is wanted is to keep agents on the ground all the time or send qualified agents at regular and frequent intervals of time. These agents must be men capable of studying the questions, not superficially, but practically and scientifically. It is only possible for men educated in technical branches to make such a study. To build up, therefore, an export trade, to conquer from England part of her commercial territory, to take due advantage of our recent successes at Chicago, we must

send German engineers or technicians to those parts of the world in which we wish or hope to win victories."

This, of course, will cost considerable money. Only the very largest houses can stand the drain. Besides, there is more or less risk. There is no "dead certainty" of success. The experiment, because of the progress and successes made in the last ten years, promises some good results. In order, however, to divide the costs, it is proposed to make a multitude of factories share the responsibility, as they will, in case of success, share the profits. These, then, either altogether or in groups, are to send out the agents, paying all the expenses. The reports are to be the common property of all the subscribing concerns. It has been proposed to divide the world up in sections; to unite the mill-owners in groups, giving to each group a section. In this way manufacturers preferring South America to Africa can enroll themselves in the South American group, and *vice versa*. These plans have already been discussed and have found favor among the various mechanical unions of the Empire.

Steel and Iron, a leading industrial paper, is informed that something commendable has been done. Engineers are to be sent to Brazil, La Plata, Mexico, Chile, Peru, and other South American states. The purpose is to "drum up" trade. The costs are to be proportioned to the number of persons employed by the factories sending the engineers. It is hoped that enough will subscribe to keep the cost down to 50 or 75 cents per person employed. As an aid to the engineers, vast numbers of illustrated machine-explaining catalogues, printed in Spanish and the various languages of the people or colonists among whom they are to circulate, are to be sent before and after the engineers. Thus far, wherever and whenever the propositions to send engineers and catalogues have been discussed they have been voted for unanimously. It is the universal opinion and conviction that this is the only way to keep up the progress of the past twenty years and the only way to win a fair remunerative share of the foreign trade. The foreign office and the Prussian minister of commerce have expressed a lively interest in the movement and have promised it aid. Nineteen firms, representing 7,506 workmen, have already subscribed. It is expected, so popular is the matter becoming, that many more will soon join. It is also proposed to have the engineers take orders for iron and steel products wherever they go whenever they can. This will help to keep down the costs to those taking part and will permit of a much larger number of engineer agents being sent. The number, it seems, is to be limited only by the subscriptions. Everything about the plan commends it to the thoughtful consideration of our people as well as to the Germans. It is the outcome of long and careful thinking. For many years now (at least ten) the Germans have been thinking how best to build up their outside trade.

It should be no hard task to turn the Chilean, Brazilian, or Mexican to the polished, hard, handy, solid, well-finished products of our shops. If he is so conservative that he wants what his fathers worked with, let us give it

to him. He should know what he wants; we should seek to know what that is and furnish it. This is what the Germans intend to do. Let us give the South Americans such shapes as they prefer, but finished as we finish. There is nothing made in England or Germany in the machine or tool line that we can not make as good or better. If the South American prefers plain to polished, heavy to light, rough to smooth, let him have them. It is much easier to sell a man what he thinks he wants than it is to sell him what we think he ought to buy. That is as true of business in Rio de Janeiro or Buenos Ayres as it is in New York or Boston. It may be possible to reform foreigners up to using our tools; we can never coerce them.

There are no workmen so bright as ours. The native genius takes kindly to mechanics. We are neat, quick, and practical. We adopt more quickly what is new and good, and let go sooner of what is bad or growing obsolete, than any other people. In making machines do the work of men we would have left the Old World nations far behind had they not imitated us. Only yesterday a large manufacturer, just returned from the World's Fair, told me that there is no loom on earth equal to Crompton's, of Worcester, Mass., and no tools like ours. I can see for myself. The shovels used here, in spite of the spirit to imitate seen in so many machines, are as like those used in the valleys and hills between the Tigris and Euphrates four thousand years ago as two eggs from the same hen are like each other. Notwithstanding this, the richest concerns in the large cities of the Empire are piling up millions by building and selling copies of our harvesters, horse rakes, mowers, and other horse and steam agricultural implements. Our hammers, hatchets, axes, spades, shovels, planes, augurs, bits, patent stocks and bits, wringers, sewing and washing machines, hair-cutters, and tools of every profession and description should beat not only Germany's, but England's, in every South American city or market. There is no good reason why, with our improved methods and our well-known superior machinery and quicker workmanship, we should not make them as cheap. I know we can produce them better.

Let us also, then, send out engineer agents—men trained in mechanics, and able to speak Spanish, French, or other languages. Let them carry catalogues and commissions to sell anything from a paper of pins to a Corliss engine. Let our manufacturers, emulating the Germans, unite to pay the expenses. Let great efforts be concentrated in places offering a market.

J. C. MONAGHAN,

CHEMNITZ, *September 6, 1893.*

Consul.

THE SEAL CATCH—1893.

Up to date thirty-two British sealing schooners of the fleet of 1893 have returned to this port, and twenty-two are yet to arrive. A number of the absent ones have sent part of their catches home by other vessels. The total number of skins received at this port to date is 53,499. About 10,000

skins are yet to come, bringing the entire catch of the season by British Columbia sealers up to 63,000 or more. The entire catch of 1892 by the British Columbia fleet was 49,495 skins. The catch of this year, therefore, is the largest on record. Some skins are sent direct to London from Japan ports, but the exact number has not been reported here. On the arrival of all the fleet I will send complete details as to the catch of each vessel, where the skins were taken, etc. Just about half the skins now in port were taken on the American side of the North Pacific, and the other half in Japan and Copper Island waters. If we consider the catches by American vessels, delivered at Seattle and San Francisco, and added to the skins taken on the Pribyloff Islands, the entire catch of the year in northern waters will, I think, as stated in a former report, reach 100,000 or over.

It is noticed by sealers that many more bulls were taken this year than heretofore, especially young bulls. They account for this by reason of the large decrease in the number killed on the Pribyloff Islands since the *modus vivendi* went into force. The American company was restricted to 7,500, while the high seas fleets were free to take all they could find. That provision was, apparently, prejudicial to American rights.

Indians no longer use the spear. Not a single spear was seen this year, though some 465 Indians were employed. The shotgun is the universal implement of destruction. The largest catch of the season was 2,772, taken by the *Carlotta G. Cox* on the Japan coast, and near Copper Islands. The run is made from the latter place to Victoria in from sixteen to twenty days.

LEVI W. MYERS,

Consul.

VICTORIA, *September 19, 1893.*

IMPORTATION OF SILVER COIN INTO VENEZUELA PROHIBITED.

At this moment, when the silver question is attracting universal attention, it may interest the Department to know that for some time past there have been imported into this country large quantities of Venezuelan silver coins which have been discovered to be of unauthorized coinage.

Since 1886 the importation of foreign silver of all nationalities has been prohibited, but all classes of gold coins and Venezuelan silver have until now been allowed free entry and are constantly being introduced through the custom-houses. It now appears that parties abroad, taking advantage of the low price of silver bullion, have coined hundreds of thousands of Venezuelan silver dollars—exact facsimiles of the emissions authorized by the Government and containing an equal, or, as it is said, even a greater amount of pure silver.

The Government has acted promptly in the matter and issued a decree prohibiting the importation from abroad, except by the Government, of Venezuelan silver coins and declaring them contraband should efforts be

made to introduce them. This will put a stop to the business through the custom-houses, but large amounts will no doubt continue to be successfully smuggled. I inclose copies and translations of the prohibitory decree, which explains the attitude of the Government.*

It is a striking commentary on the situation that such a speculation is possible, producing, it is said, nearly 40 per cent profit, although it is freely admitted that the surreptitious coins are in all respects equal to those authorized by law.

Advices from Curaçao, which is and always has been a dumping ground for money of all nationalities, show that Venezuelan silver, since the late developments, is received at only one-half its face value; moreover, it is intimated that it will soon be rejected entirely.

E. H. PLUMACHER,
Consul.

MARACAIBO, *August 28, 1893.*

I am informed that the Venezuelan Government has issued an order declaring all silver coin brought from any foreign port to any port of Venezuela "contraband goods." This order includes Venezuelan silver. I understand that this action by Venezuela comes from the discovery of a large amount of bogus Venezuelan silver coin now circulating in the island of Curaçao and others of the West Indies which was coined not by the Venezuelan Government, but by unknown parties. A large amount of this coin is said to be in circulation, on which, although it contains the proper amount of silver, the coiners of the same have evidently made large profits. Some of the merchants here fear there is so much of this silver coin in circulation that the people will become suspicious of all Venezuelan silver, even in Venezuela, and that there will be a marked depreciation in its value. In Curaçao, where Venezuelan silver has heretofore been the principal silver coin, it is reported that the bolivar, which has been passing for about 20 cents, now only brings 9 cents. The 5-bolivar piece, about the size of an American dollar, with a value in Venezuela and the West Indies of 96.3 cents in United States gold, now only brings about 45 cents at Curaçao; and many of the merchants there refuse to receive Venezuelan silver at any price, because the "contraband" order affects the true silver coin of Venezuela when it is once outside of a Venezuelan port. I deem this a matter of importance to American merchants who trade with Venezuela.

PHILIP C. HANNA,
Consul.

LA GUAYRA, *September 5, 1893.*

AMERICAN TRADE IN SALVADOR.

After a careful investigation of the existing difficulties that our trade has to overcome in this country in order successfully to compete with European goods, I have arrived at certain conclusions which I judge worthy of the consideration of our manufacturers and exporters.

Our commerce in Salvador has grown up slowly, but at the same time steadily, in spite of the prejudice aroused against it by competitors and in spite of deplorable errors committed in the beginning by some of our shortsighted exporters.

The reputation of our goods, now firmly established and daily extending in these markets, is due to their merit. Two facts, however, almost nullify the advantages we have already gained. These are our short credit system and our lack of transportation facilities, which produces the anomalous result of cheaper freight rates from European than from American ports.

It has been frequently said, and it is a fact, that American manufactures can not compete with goods of European make on account of the cheapness of the latter. This cheapness is generally due either to absolute inferiority of the transatlantic article or to heavier freights paid from American ports. Rather than debase the quality and the good reputation of our products it is preferable to go on as we are going; it is better to be unable to compete, in a certain sense of the word, because the consumers here understand very well that the higher prices they pay for our articles are in just proportion to their superior quality. But if freights were reduced the prices actually demanded for our goods would naturally fall, and we would then stand a fair chance of becoming the masters of Central American trade.

Let us compare a few European articles with those of American manufacture, in order to establish the real difference existing between them, independently of prices. American cotton "manta" appears in this market as a heavy, soft, white fabric, 36 inches wide and 40 yards long. English shirtings usually come in 24-yard pieces, 24 to 28 inches wide. It is of a yellowish gray hue, thin and brittle in texture, as if the threads of which it is woven were held together by the lime and glue with which it is entirely coated. European and American calicoes, muslins, cotton handkerchiefs, braids, and other stuffs of the same kind likewise differ, those of American make showing at a glance what they are, the European concealing under a brilliant exterior the poverty of their quality. The lower classes of the people give the preference to European goods, on account of their cheapness, but, aware of their bad quality, they are constantly striving to obtain American articles, satisfied that they would gain, though paying higher prices.

Salvadorean importers get in England, on long terms of credit, white cotton shirtings in 40-yard pieces, 33 inches wide, at \$1.55 per piece; in 24-yard pieces and narrower width at 88 cents; gray cotton domestics in 40-yard pieces, 28 inches wide, at \$1.37 per piece; striped cotton towels,

36 by 72 inches, at \$4 per dozen; and white towels, 28 by 64, at \$2.20 per dozen.

Cotton yarn, bleached and dyed, is imported only from England and is much used in the manufacture of native "manta," drills, cotton shawls (or "rebosos"), napkins, tablecloths, and coarse handkerchiefs woven in the country. It comes in bales of 45 or 50 bundles, weighing 5 pounds each. According to consular invoices, this yarn, dyed, is bought in Manchester at 20 cents per pound. American cotton yarn could advantageously compete in this market with the English article, and it would be worth while to give this line of trade a trial, since the English carry it on with a profit even after buying the raw material from the United States or other countries.

Sewing thread is exclusively imported from the United States.

Woolen fabrics are mostly imported from France, England, and Germany. With few exceptions, they are mixed with other materials. They wear very poorly, and sell at prices sufficiently high for first-class goods. American woolen stuffs could find acceptance in much larger quantities than are now actually imported. Their only drawbacks are, as stated above, the higher freights and noncredit system of our tradespeople. Woolen hats of American manufacture are being imported. Their superiority in every respect is recognized by the people.

Silk thread and stuffs are generally imported from France. The United States have lately begun to introduce this kind of goods, and, as regards fineness in quality, they have nothing to envy in those of European manufacture.

The importation of bottled beer from the United States is growing more and more every day. English beers are fast withdrawing from this market, which not long ago they monopolized. The German article is the only one in competition. Beer is not imported in barrels.

Cheap European wines, cognacs, and rums, generally imported from England and Germany, are being slowly driven away by the pure articles from California. With lower freights we would soon become the absolute masters of the wine and liquor trade of Salvador. Chile is now looking to Central America as a new field for the exportation of her wines and cereals. Heretofore Central America has imported from Great Britain Chilean wines adulterated by European dealers, who sent them back to this continent nicely bottled and gaily labeled. In the future these countries will import the pure wines and liquors of the southern Republic, with which we shall have to compete.

Shoes and shoemakers' materials are more rarely imported from Europe than formerly. We are rapidly gaining ground in this line, and we are the only exporters to these countries of sewing machines for shoemakers' use, as well as of many raw materials and tools.

In the commerce of glass and china ware, as also of lamps and their accessories, bric-a-brac, and similar goods, we are improving. The same might be said of cheap jewelry, paper, blank and printed books, and all sta-

tionery. American watches and clocks have great demand, and their use is steadily growing. Our trade in drugs, medicines, and perfumery is making rapid progress. Mercury is largely imported from Europe. In some articles, however, such as rubber and leather goods, blacking, varnishes, cordage, and umbrellas, we are making great improvement.

With regard to machinery, our trade is increasing constantly. Sewing machines of all descriptions, as well as carpenters' foot-power machines, are imported from the United States. Sugar-cane mills, turbines and other water wheels, coffee and rice cleaning machines, electric apparatus, railway locomotives, and steam engines of American manufacture are more frequently imported than are those of European make.

The competition between American hardware and that of England and Germany is becoming more brisk and important every day, notwithstanding cheaper freights from European ports and the difference in credit systems. The great superiority of our goods is daily more firmly established, and this is proved by the repeated efforts made by transatlantic manufacturers to imitate our articles and trade-marks, aided by dealers here who openly declare, when detected, that English or German goods are "as good as American."

Galvanized-iron wire for telegraphic and fence purposes, as well as revolvers and rifles, are exclusively imported from the United States. First-class tools, machetes, axes, wire and cut nails, hunting knives, and steel in bars mostly come from the United States.

The following are wholesale prices at which Salvador merchants get some of their goods on credit in English markets:

Articles.	Price.	Articles.	Price.
Axes (good quality, without handles)...each...	\$0. 78	Steel in bars.....per pound...	\$0.05½
Machetes.....per dozen...	2. 36	Iron buckets.....do.....	.03
Kettles ("peroles") for cane juice.....each...	10. 40	Iron "comales" (open flat ovens for baking corn bread).....per pound...	.02
Hunting knives.....per dozen...	2. 15	Iron "cantaros" (water pitchers).....do.....	.12
Shears.....per gross...	5. 20	Hoes.....per dozen...	1. 50
Sheet-iron cans for packing balsam.....each...	1. 03	Lead in bars.....per pound...	.02½
Galvanized sheet iron.....per pound...	.01¾	Tin in bars.....do.....	.20
Zinc in sheets.....do.....	.04		

With regard to furniture, it may be said that most of that imported comes from the United States. The same is also true to a very large extent of oil, paints, brushes, moldings, and tapestries, which were hardly ever brought from the United States till a few years ago.

Coal, petroleum, gasoline and naphtha, Portland cement, cotton-seed oil, tea, lumber, ready-made doors and blinds, preserved meats, lard, fresh and preserved fruits and vegetables, Indian corn and maizena, flour, and rice come exclusively from the United States, as also large quantities of pickles, cheese, salt fish, and other potted meats.

G. J. DAWSON,
Vice-Consul.

SAN SALVADOR, *September 3, 1893.*

EXPORT TRADE OF SABANILLA.

I transmit a table of exports by steamers from the port of Sabanilla for the year ended December 31, 1892. As steamers have wholly superseded sailing vessels at this port as far as export cargo is concerned, the table may be taken as covering all the exports.

Exports per steamer from the port of Sabanilla for the year ended December 31, 1892.

Articles.	Quantity.	Value.
	<i>Kilograms.</i>	
Balsam	40,450	\$24,270
Bird skins.....	5,100	25,500
Cocoa.....	79,680	39,810
Coffee.....	10,679,400	5,339,700
Cotton.....	942,340	201,930
Cotton seed.....	1,825,250	26,075
Divi-divi.....	1,764,280	25,204
Fustic.....	719,040	8,088
Hats.....	7,400	74,000
Hides.....	1,377,030	423,109
Horns.....	20,600	1,648
Ivory nuts.....	598,570	171,020
Mineral.....	2,374,740	1,187,370
Plants.....	96,480	80,400
Rubber.....	134,160	67,800
Rum.....	8,800	4,400
Sleepers.....	788,100	31,524
Tobacco.....	1,509,840	251,640
Sundries.....	54,300	18,100
Total.....	23,025,500	7,991,768
Treasure.....		3,774,016
Grand total.....	23,025,500	11,765,784

Over one-half of the coffee went to New York, despite the fact that a duty of 3 cents per pound exists on Colombian coffee. A large shipper advises me that for certain grades of coffee the net result is better in New York after paying duty than in European marts. It is true that some of this coffee was shipped "in transit," but I believe no large portion of it ever left the United States.

As to hides, also paying a duty of 3 cents per pound, nearly all went to New York.

Of the total value of produce, \$3,151,633 is credited to New York, as against \$4,840,135 to all other ports.

This result seems to me highly satisfactory.

The values in the table are in Colombian currency, which to-day may be estimated at \$2.50 per United States gold dollar.

E. P. PELLET,
Vice and Deputy Consul.

BARRANQUILLA, September 11, 1893.

THE RAMIE INDUSTRY IN FRANCE.

At the present day, although both soil and climate are friendly to its production, ramie is practically uncultivated in France.

Some years ago, when the vineyards were ravaged by the phylloxera and before the American vine was introduced, cultivators in some of the districts of the south of France replaced the vine stocks by those of ramie, in order to utilize the ground. As soon, however, as it was discovered that the American vine was invulnerable to the attacks of the phylloxera they abandoned the experiment of raising the ramie and since have refused to devote any portion of their fields to its culture, for the very practical reason that the cultivation of the vine is much more profitable.

Ramie, called in England "China grass" and in China "Tzing-ma," or hemp of the valley, is, as is well known, a perennial plant whose fiber is like that of hemp, but much superior to it in solidity, resistance, length, and delicacy. The analogy of the ramie with the indigenous nettle of Europe—genus *Urtica*—was discovered at the beginning of the present century; but it was not until a comparatively recent period found that the textile nettle belonged to two distinct species—the *Urtica utilis* or *Urtica tenacissima* and the *Urtica nivea*. The *Urtica utilis* is a tropical plant, while the *Urtica nivea* is grown in temperate climates. It is with the latter that attempts at cultivation have been made from time to time in France.

The failure to render its production a permanent industry did not result from the difficulty of its cultivation—both soil and climate giving it a generous welcome—but from the want of success in discovering an economical method of decortication. A process by which the fibers of the ramie could be detached from the stalks at an outlay sufficiently small to insure a reasonable profit to the manufacturer has been the problem which has taxed for many years the ingenuity of French inventors. That this problem has never been completely solved is generally conceded; but it is hoped and believed by many that the process discovered by M. Favier, to which allusion will hereafter be made, has done much to utilize the fibers of the ramie in the manufacture of numerous textile fabrics.

As soon as interest was thoroughly aroused upon this subject, it became plain that the primitive method adopted in China, that of decortication by hand, was only rendered available by reason of the cheap labor of that country, and that it would be obviously impracticable in France. Again, it was found that retting, the process employed for flax, was not applicable to ramie, a plant whose stems of irregular thickness do not reach maturity simultaneously and whose fibers are embedded in a glutinous matter greatly in excess of that of flax or hemp.

The process employed for flax having been found to be inapplicable to ramie, the idea was conceived of resorting to machines similar to those which

for several years have been used in the decortication of hemp when not submitted to the retting process. This method, due to MM. Leoni and Coblenz, was only applicable when the ramie stalks were absolutely dry. For more than twenty years efforts have been made to construct a machine for the decortication of the stems in the fresh or green state. It would be unprofitable to attempt a detailed description of these various machines; for not only have their merits and demerits been fully discussed at the sessions of scientific associations and in the reports of committees of award of national and international expositions, but in no single instance can it be claimed that the genius of the inventor has produced a machine completely adequate to the decortication and *dégommage* of the ramie stem.

Ever since 1844, when a surgeon—M. Leclancher—attached to the French man-of-war *La Favorite* forwarded to the Museum of Natural History, at Paris, specimens which he had gathered near the mouth of the Yangtze, there has been a dream, more or less fitful, that ramie might in time compete with cotton in the manufacture of textile fabrics. During the civil war in the United States the cotton famine in England and the scarcity of cotton in France occasioned by the blockade of the southern ports revived the interest in this subject which had begun to wane, and the chambers of commerce at Lille and Rouen drew attention to the resources which China grass presented. On the 20th of July, 1870, the French Government appointed a committee to examine and report on the subject, but the excitement of the Franco-German war soon interrupted any serious consideration of the matter.

To-day the dream of ramie as a substitute for, or even as a formidable competitor with, cotton is hardly indulged in by its most sanguine advocates; but for some time interest in the subject has been quickened, although the work goes on in soberer and more practical channels.

A RAMIE FACTORY.

A French society was formed some years ago to develop the cultivation of ramie in Spain and Egypt, two countries affording most favorable conditions of soil and climate. The Spanish proprietors willingly consented to the experiment; but, being absolutely without the necessary means, they had to draw largely from the treasury of the society, and at last, growing discouraged, the experiment was abandoned. In Egypt success was not greater. Although the plant took kindly to its new home, the cost of irrigation became very onerous, and in addition to this the director appointed by the society betrayed the confidence reposed in him. The result was that in a short time the society had to go into liquidation, after having lost 4,500,000 francs.

In the meantime a manufactory for the spinning of ramie thread and converting it into tissues, such as sailcloth, table linen, curtains, etc., was organized at Avignon, in the department of the Vaucluse, under the name of A. P. Favier et Cie. The creditors of the society in liquidation, believing that the ramie industry would succeed in the end, abandoned to a new board

of directors the factory for a certain number of years, rent free, on the condition that a large portion of the dividend should be appropriated to the extinction of the debt, which amounted to 600,000 francs. Already there is every hope of success, thanks to the energy of the head of the company—M. Favier.

Abandoning all idea of establishing plantations in Europe, the new company imports the raw material direct from China, where it has already passed through the first and somewhat incomplete operation of decortication. On its arrival at the factory it is passed a second time through a decorticating machine, of which M. Favier is the inventor, and finally relieved of all the glutinous matter by a chemical process, of which M. Favier keeps the secret, but which is supposed to consist of a weak alkaline solution in which the fibers are boiled. It is then spun into thread, when it is ready for manufacturing the articles already mentioned.

The factory employs at present about 200 hands, men and women, and the business done represents about 1,000,000 francs (\$190,000) yearly.

Manufactured ramie is a little dearer than cotton or linen goods, but its durability is said to be threefold that of the latter. It is claimed that it will always preserve the original gloss.

The factory—the only one, I believe, in France at present—does not intend, however, to continue the manufacture of tissues; it will confine its business to spinning, so as to furnish the large weaving industries with the first material, or thread.

The actual price of the thread ranges from 4 to 12 francs per kilogram (about 37 cents to \$1.10 per pound), but the company asserts that as soon as the cultivation of ramie becomes developed in other countries (the South American especially) these prices will be much lowered.

Besides this branch of the industry, the company manufactures ramie pulp for the making of paper of all kinds, but especially for that intended for the bills of the Bank of France. This bank has made a contract with the company by which the latter is obliged to keep in stock for the bank 20,000 kilograms of pulp in one of the bank's large storerooms at Marseilles and to have on hand 20,000 kilograms more, while the bank itself has always a similar amount in its paper manufactory near Paris, making in all 60,000 kilograms at all times available. The price of the pulp is 6 francs per kilogram (about 55 cents per pound), and it is said that the notes made with this material are not only stronger than others, but that they defy imitation.

The company is at present in negotiation with the Russian Government on the same subject, and already that Government has asked for a few thousand kilograms on trial.

The dividend paid by the company last year was $6\frac{1}{2}$ per cent, and this year it is predicted that a somewhat higher dividend will be declared.

CHARLES W. WHILEY, Jr.,

Consul.

ST. ETIENNE, *September 14, 1893.*

AMERICAN HAY IN GERMANY.

The exclusion of Russian hay from Germany by ministerial decree has been followed by a condemnation of American hay in the laboratories of the German chemists. The German press is now publishing the results of the analyses of these chemists, with appended warnings against buying this American agricultural product.

In a recent article in the *Landwirtschaftliche Mitteilungen* Dr. J. H. Vogel makes the following comparison as to protein contained in American and European hay:

Sort of hay.	America.	Europe.
	<i>Per cent.</i>	<i>Per cent.</i>
Timothy.....	8	11.8
Orchard grass.....	9.6	14.9
Red clover:		
Budding	17.8	20.5
In full bloom.....	15.7	16.1

"Apart from this low percentage of nutriment, which should induce all agriculturists to keep hands off from American hay, there is also danger of introducing"—so the doctor says—"with this transatlantic product new insects."

The experimental station at Kiel has analyzed several samples of American hay and published the result in the *Landwirtschaftliches Wochenblatt für Schleswig-Holstein*. Sample No. 31 consisted of 72.2 per cent timothy, 6.2 per cent clover, 6.2 per cent camomile, 15.4 per cent miscellaneous. Sample No. 32 contained 45.4 per cent timothy, 47.4 per cent clover, 7.2 per cent miscellaneous. The chemical composition was as follows:

Components.	No. 31.	No. 32.
	<i>Per cent.</i>	<i>Per cent.</i>
Water.....	11.28	10.32
Protein.....	6.14	6.76
Fat.....	1.74	1.64
Carbohydrates.....	43.36	36.97
Fiber.....	32.55	39.27
Ash.....	4.93	5.04
Total.....	100	100

These analyses certainly make a bad showing. If Americans wish to open up a hay market in Germany this winter they will have to send the very best on hand, and not—as some German papers have complained—make this country a dumping ground for half-rotted grass simply because hay is scarce. Rather than feed this, the farmer will reduce his stock.

THEO. M. STEPHAN,

ANNABERG, October 9, 1893.

Consul.

AMERICAN GROCERIES IN FRANCE.

An American is very much surprised upon visiting the large groceries of France to find so few articles from the United States. Yet there are many goods that could be advantageously exported from the United States. There are several reasons why this trade has not been undertaken before. The proximity to and the intercourse with England is close. Merchandise from all lands is stored on the English docks; from this store the Continent is supplied. Many goods manufactured in America have been sold as English products and marked as such. This is notably the case in canned articles. Hams, shoulders, and bacon, called genuine "Yorkshire," were offered last year to the writer in a wholesale grocery in central France which, upon close examination, disclosed the word "Chicago" stamped on them. The mark was faint, having been almost effaced from the meat.

Then there is a prejudice against American groceries. This is probably due to the ignorance that exists in regard to their preparation and manufacture. From all that can be ascertained, no great pains have been taken by American producers to introduce their goods. Some poor qualities of American products badly packed in unsightly packages were exhibited some years ago. These made French buyers suspicious of groceries from the United States and turned them against articles of food coming from that country.

So as carefully to test the feeling in France about the introduction of American groceries, the writer imported several cans of fruit, vegetables, and fish from the United States. They were taken to the leading grocers in a large city, who at first were unwilling even to look at the goods. When requested simply to compare them with those of other nations they did so, apparently under protest. Afterward they frankly stated that they found them "in every respect superior to those they had been accustomed to purchase," and when the prices at which the goods could be bought in New York were shown the grocers said that "they were ready to import their supplies from the United States."

Dealers in the United States must not think that they can do business by sending to French houses price lists printed in the English language and expressed in American currency, for they will not be looked at under any circumstances.

There is a decided demand for prepared food for the table, such as cooked and canned goods. Among the working, middle, and even the upper classes the taste for cold meats is general; and the economy of fuel and time is taken into consideration. The "Charcuteries" in France contain large quantities of cooked meats, meat pies, gelatines, etc., for sale, and they all make money on those articles.

In manufacturing towns both the men and women work all day long at some industry, and the cooked food is a veritable blessing to them. Most

of the hotels serve at one or more meals cold tongue, ham, meats, and fish. These often are canned goods. The question may be asked in America, "How can we know what articles will sell in France?" After several consultations with the leading grocers in different sections of France the following list of goods has been prepared. It has met with general approval.

FISH.

Salt, smoked, and canned fish are in great demand. They are named below in the order of their relative importance.

Mackerel.—These fish, salted, are rarely found in kits or barrels. The only way that they are preserved is in tin cans holding from 2 to 6 pounds each. Probably the best way to promote large sales would be to cater to this fancy, which has economy as its foundation, there being just enough in one box for a meal. If the mackerel were put up in long cans containing two to six fish, they could hardly fail to prove attractive. Smoked mackerel are almost unknown outside of Paris, though it is certain that if the grocers had them for sale they would not remain long on their hands.

Codfish.—Salt cod is the cheapest and most frequently used in France. It is usually freshened before being sold in the markets. Desiccated cod is never seen, and is perhaps unknown. Small boxes of good quality would find a ready sale in France, especially during the winter.

Herrings.—Canned, smoked, and salt herrings are already sold in large quantities; but good American varieties could easily compete with what is now on the market.

MEATS.

Salt pork, hams, and shoulders, as well as smoked hams, whole pigs, and bacon, have been placed on the market. Some of these, as I have said, that bear a Chicago mark are sold as prime "Yorkshire pork." The pieces of salt and smoked pork should not be too large. There is a great prejudice against American pork. Shippers should bear in mind that pork and ham are eaten often without being cooked.

Sausages.—These are imported in large quantities from Germany, Italy, England, Belgium, Holland, and even Scandinavia, and there is no reason why first-class American sausages should not displace some of the wretched varieties that are now sold in Europe. In the opinion of many much may be done in this line of food.

Corned beef.—Already corned beef in cans and barrels has found its way into the heart of France from the United States. Comparatively little of this commodity, however, is sold. With the prospect of meats selling at a very high price during the coming year there will be an opportunity to meet a demand that will be experienced throughout central Europe. Much attention should be paid to putting prime canned and smoked beef and beef tongues upon the European markets. If good qualities are sent over, the sales will be quick and sure.

Poultry.—It is doubtful whether much can be done in the way of canned poultry, because it is good and cheap all over France and forms one of the principal articles of food for the people.

FRUITS.

Canned fruits.—Most prominent of all are pears. Good Bartlett's or any showy, high-flavored variety put up in nice glass jars will command immediate attention. Peaches come next in the category. These would sell readily if tastefully put up and placed in pretty jars or cans. From personal experience gained by exhibiting samples of American canning, I have no doubt as to good results following if a reasonable price is asked for the merchandise. Plums, cherries, apricots, and quinces would sell, but not as well as the other two fruits above named.

Raisins.—Such as are grown in California could easily displace the Spanish Malagas, as the American fruit is considered superior and makes a better show than the Spanish varieties. The cheaper kinds of American raisins, generally used for cooking, packed in sacks, could find a ready market.

Dried apples.—The fine qualities of evaporated fruit so frequently seen in the United States are rarely seen in France. What little dried French fruit there is for sale all has been dried in the sun. Recently several firms have imported large quantities of evaporated American fruit, which has been rapidly disposed of, and a new and thriving business has been opened. There is still room for other houses to set up the trade, especially in evaporated peaches, which are as yet not common and the price of which is high. A large field awaits American enterprise in this direction.

VEGETABLES.

Lima beans, tomatoes, asparagus, and small beans can all be imported profitably into France if the selling price is moderate. Canned corn, so popular in the United States, is not used by the French people; but gradually the nutritive qualities of this wholesome cereal are becoming known, and before many years canned sweet corn will find for itself a place in every French grocery.

SUNDRIES.

There are many articles found on the shelves of American groceries and considered as standard that are unknown in France.

Flavoring extracts.—Lemon, vanilla, orange, and peach extracts need only to be properly introduced to be quickly marketed.

Cheese.—Chester, old English, pineapple, and Swiss (Guyère) cheeses would be acceptable to the French palate. Many thousand tons of this food are annually brought into France from Holland, Switzerland, and England. Why can not the United States compete with these countries for the trade?

Pickles and condiments.—Cucumber and onion are the pickles which sell the best in France, but if other kinds were slowly and prudently introduced they would find a sale. Mustard, peppers, spices, etc., could be made to please the French taste if they were put up in attractive and small packages.

Brooms.—This useful article, made so cheaply in America, could be advantageously sold in Europe if adapted to the mode of the different countries.

Soups.—Turtle, ox tail, and all kinds of canned soups could well be placed among the cooked articles in the grocery store, where the people would soon learn to buy them.

Crackers.—The varieties of French crackers manufactured in the country are few and poor. Most of the better class are imported from England. Soda crackers, as well as butter and sweet crackers, would be well received and would prove a boon to the consumer and grocer. Fancy crackers, in nice packages tastefully arranged, would be very popular and should be introduced.

There are many articles not enumerated in the above list that might possibly find a sale on the French market. Care and experience must be used in the selection and preparation of the merchandise designed for France, as external appearance has much to do with its success. After a most careful consideration and study of the subject and after consultations with the grocers and consumers, it is very certain to me that France offers to the enterprising grocer a field unsurpassed in all Europe for activity and profit if attention be paid to the peculiarities of French taste and customs and the merchandise be placed on the market at reasonable prices.

In quoting prices it would be well to name the price of the articles delivered in France, as many a sale has been lost that would have been to the profit of the American exporter had he yielded this one point and reckoned the freight and French duty in with the prices given.

WALTER T. GRIFFIN,
Commercial Agent.

LIMOGES, *September 21, 1893.*

THE USE OF GAS MOTORS IN GERMANY.

Prominent among the economies which have been introduced during recent years in Germany is the use of gas motors in place of steam engines in all the smaller forms of manufacture where the motive force required does not exceed 75 to 100 horse power. At the Frankfort Electrical Exposition of 1891 most of the dynamos were driven by gas and caloric engines, and the display of these motors at that time was almost as varied and interesting to the general public as that of the electrical apparatus to which they were technically subsidiary.

There were in operation at that time throughout Germany about 18,000 gas motors, with an aggregate motive force of 60,000-horse power. Since then the gradual cheapening of gas and the rapid extension of electrical lighting and electrolysis have combined to increase very rapidly the use of gas motors, the effectiveness and economy of which were so brilliantly demonstrated at the Frankfort Exposition. No statistics are available to show the precise number that are at present in use, but, as the two principal makers of gas engines in Germany have alone made and delivered during the past two years 1,950 motors, it may fairly be inferred that the number in actual service in this country is not far short of 24,000 or 25,000.

Meanwhile the progress that has been made in improving the machines and increasing their economy has been quite remarkable. The first gas motors, which were exhibited and used experimentally about 1868, were fatally extravagant. The Lenoir machine, which was the best model known to Germany as late as 1861, used—according to a recent statement in Kühlow's Trade Review—1,235 cubic feet of gas per horse power per hour, whereas the motors now in use consume only 28 feet per horse power per hour in small machines, and in large sizes as low as 23.75 feet; so that 21.2 cubic feet of gas per hour will run an incandescent lamp of 16-candle power, and this proportion is said to have been reduced in large plants which employ motors of 500-horse power and more to 17.6 cubic feet of gas per horse power per hour.

How economical such a motive power must be for all the smaller forms of manufacture, and especially for electrical lighting by isolated plants, will be apparent from the following tabular statement of the price per 1,000 cubic feet of gas which prevails at present in the principal cities of Germany:

Cities.	Price.	Cities.	Price.
Altona, Bremen, and Mayence.....	\$1.36	Dantzic and Dresden.....	\$1.14
Crefeld (with discount to large consumers)...	1.32	Berlin and Königsberg (without discount)...	1.09
Brunswick, Bonn, and Strasburg (without discount).....	1.21	Cassel, Dortmund, Elberfeld, and Hanover (with discount).....	1.09
Magdeburg, Leipsic, and Breslau (with discount).....	1.21	Frankfort (with discount).....	1.07
Barmen (with discount).....	1.19	Stettin, Essen, and Cologne.....	1.02
		Bochum.....	.95

In some of the above-named cities gas is made and furnished by the municipality; in others, by private companies chartered and managed similarly to private gas companies in the United States. In Frankfort the field is occupied by two companies—one English, the other German—which have parallel mains on all principal streets and supply for the above-stated price gas of uniformly excellent quality. When it is remembered that the coal for the manufacture of gas in this city is brought from England and the Ruhr district of Westphalia, it will be apparent that for two rival companies to prosper in a city of 180,000 inhabitants by selling gas at \$1.07 per thou-

sand it must require good management and the employment of the most improved methods. As a matter of fact, the cheapness of gas here, as elsewhere in Germany, is the direct result of the skill and care with which all the subsidiary products of coal distillation—tar, ammonia, etc.—are saved and utilized.

FRANK H. MASON,
Consul-General.

FRANKFORT, *October 6, 1893.*

TRADE OF MADAGASCAR.

I am in receipt of many letters from business men throughout the United States relative to trade in Madagascar. As it would be utterly impossible, besides being a violation of the consular regulations, to answer individually these letters, I embrace this means of replying to my inquirers.

In my first annual report on the commerce of Madagascar,* I made a careful statement of the business done by Americans in this country. During the present year a business firm from Bombay, India, has been established in Tamatave, and on visiting the manager I found him carrying an excellent grade of American cottons. He informed me that, although the monetary condition of the business world was in a very nervous state, yet he had no reason to complain so far as the business of the new firm is concerned.

IMPORTS FROM THE UNITED STATES.

The following table gives all the data that I have been able to secure concerning the imports from the United States:

Imports into Madagascar for the year ended August 12, 1893.

Articles.	Quantity.	Value.
Cotton goods.....bales...	13,500	\$945,000
Petroleum.....gallons...	62,500	10,000

The customs duties in Madagascar are 10 per cent in "money or kind." I am unable to obtain correct information as to the quantity and value of American cottons, petroleum, and other goods brought into this port in French, English, and German steamers. It will be seen by a comparison of this with my report of November, 1892, that there is a large increase in the importation and sale of American cottons and petroleum in Madagascar over that of 1892.† I have reason to believe that the increase in the demand for American goods will continue, as they challenge the best prices in this market.

* No. 146, p. 436.

† In 1892, 7,500 bales, valued at \$581,250, and 32,000 gallons of petroleum, valued at \$3,520.

EXPORTS TO THE UNITED STATES.

The following table shows the exports from Madagascar to the United States during the period named:

Articles.	Quantity.	Value.
	<i>Pounds.</i>	
Rubber.....	158,879	\$113,658.58
Dry-salted hides.....	18,286	26,885.89
Hair (skins).....	16,726	1,596.90
Ebony.....		108.18
Silk lambas.....		465.10
Rofia.....	5,800	253.89

NOTE.—The table does not include the large shipments of rubber from Vatromandry and Mananzary, the quantity and value of which I am unable to obtain.

CROPS.

Rice.—There is a very fine quality of white and red rice produced in this country, but the quantity cultivated is by far inadequate to supply the demand; not because it does not do well in this soil, but for the reason that there are no improved means of tilling and cultivating the soil. I am informed by the Malagasy authorities that there was a much larger acreage of rice planted this year than last, and that a proportional increase in planting will be continued from year to year. It is estimated that more than 10,000 acres of this cereal were destroyed by the overflow following the great cyclone of February 20 to 22, 1893. This has, as a matter of course, necessitated increased importations of rice.

Oranges and bananas.—The orange and banana crop suffered the same disaster as overtook the rice crop. All the trees were literally laden with this precious fruit, which would have ripened in the months of March, April, and May. About two-thirds of this was destroyed by the cyclone. It is estimated that the damage to these fruits amounted to \$3,000,000.

By reference to my report of 1892, it will be observed that I enumerated sundry American products which would sell to advantage in Madagascar. That report seems to have awakened a new interest in business circles both in Madagascar and America. I append a letter, which is a sample of the many I have received making inquiries relative to American products, the manner of shipment, etc.

ANTANANARIVO, *July 11, 1893.*

* * * * *

I have perused with pleasure your report which was published by the Madagascar News in its issue of the 1st instant, but allow me to say that the information which, in the sphere allotted to you, you have been able to collect, is not really what it ought to have been. Should I have known your intention to publish your report so soon, I should have been able to send you some well-founded information, as I have been dealing in American cottons, besides English goods, on a large scale for the last twelve years.

You mention in your report some of the American products in canned provisions, etc. You do not convey an idea of the large business our city can carry on in that branch, which is

now exclusively imported from Europe, about three-fourths of which is from England and one-fourth from France. Flour we receive from Bombay and Australia via Mauritius; and even some of the canned provisions, such as oysters, salmon, lobsters, codfish, vegetables, fruits, pickled pork, etc., are of American produce shipped to England, whence they are scattered all over the world with English brands, and of which we receive a good quantity here. Consequently, the goods are overcharged, having to make for the profit and the shipping expenses from America to Europe, and which we importers are obliged to pay.

My scheme is to try to introduce as much as possible American goods; in fact, a general assortment, which I am sure will be of ready sale, in order to give confidence to the manufacturers and incite them to enter into the trade of our country. I confess that the scheme will be as well in our interest as theirs. And as soon as consumers shall be allowed to try the products—their quality and price—your American manufacturers will be pleased with the quantity of the goods they will be able to throw on our market, thus securing a good outlet with a very good margin for profit. Actually, we make a gross profit of about 150 per cent on English provisions from original prices, thus allowing us from 40 to 50 per cent net profit in Antananarivo. At this estimate we cover all buying and forwarding commissions, freight, landing, carriage from custom-house, customs dues, and carriage upcountry, and we also allow 10 per cent for other petty charges. For this I should want your help and assistance, which, I trust, you will kindly afford me, in order to procure from manufacturers pamphlets, export price lists, illustrated catalogues, etc., and samples which will allow me to make out the value and quality of the goods; also full information about freight, shipping expenses, etc., in America; and whether the goods may be sent direct to Tamatave or via Mauritius by steamers, the length of time the goods are to be afloat, and the manufacturers' terms—whether they would like to consign for sale on their account or to sell the goods outright.

The usual way we have done with England in ordering goods is to send the indent to a commission agent, who makes the purchases and who draws on us at ninety days for the full value of the invoice; or, if the goods are consigned for sale for manufacturers' account a commission of 5 to 10 per cent is allowed to us. We do not charge any interest for any advances we may make on the goods until they are sold. Account sales are rendered every month, with remittances to cover.

* * * * *

This letter was written by a gentleman who has done business for many years in Madagascar, dealing in various English goods.*

JOHN L. WALLER,
Consul.

TAMATAVE, *August 12, 1893.*

BALING COTTON AND HAY FOR EXPORT.†

BALING COTTON.

In connection with the subject of packing American products, I would especially call the attention of planters and factors to the superiority of Indian and Egyptian cotton baling as compared with American baling, and also to the bad practice, which is occasionally noticed and greatly to be deprecated, of mixing good and bad cotton in the same bale.

* NOTE BY THE DEPARTMENT.—For previous reports upon the products and trade of Madagascar, see CONSULAR REPORTS, No. 4, p. 355; No. 16, p. 220; No. 19, p. 47; No. 22, p. 527; No. 26, p. 327; No. 27, p. 25; No. 31, p. 11; No. 32, p. 187; No. 128, p. 33; No. 146, p. 436.

† Extract from a report relative to "Packing American Goods for Export," now in preparation.

The Indian cotton is pressed into small, compact bales, securely covered with jute, and wrapped continuously, as it were, with iron bands; whereas much of the American cotton arrives here in very bad condition—the iron bands broken and the bagging torn or otherwise mutilated and often rotten from exposure to the elements or from having lain in the water, which causes the weight of the cotton to be fictitiously increased, single bales sometimes weighing 800 pounds. Cotton thus saturated with water and increased in weight is necessarily greatly depreciated in value.

The want of proper attention in the baling of cotton and on the part of the commission merchant in suffering the bales to get wet, thereby increasing the freight on a damaged article, can not fail to injure the market for American cotton, which will ultimately be seriously felt by planters and dealers at home. It is to the interest of all concerned that this matter should be remedied at once.

The careful planter who pays due attention to the baling, as well as the quality, of his cotton will in the end be properly remunerated; but the slovenly one who mixes good and bad together, and does not attend properly to the packing, baling, and shipping of his cotton, will only be able to sell in seasons of scarcity and at greatly reduced prices.

The utmost pains is taken in the packing of Indian and Egyptian cotton shipped to Europe. Compressing is done by steam, and the bales, which are so securely covered with jute as to be almost impervious to the elements, are fastened with at least two iron bands or ties more than are used on the American bales. On an average, four bales (say 1,568 pounds net) of Indian cotton go to a space ton of 40 cubic feet; some presses making even 100 bales equal to 21 tons measurement. The Egyptian bales are somewhat larger than the Indian, but are equally well wrapped with jute and bound with iron bands. It is not believed, however, that jute as a covering for bales possesses any special excellence of character, except as to strength and cheapness.

BALING HAY.

The greatly increased exportation of hay and feeding stuffs from the United States to this port, following the disastrous results of the late drought in western Europe and the interdiction which in a measure has been placed upon importations of hay from the steppes of southern Russia, where cholera and cattle murrain are chronic, raises a question of interest to American farmers and shippers as to the proper method of packing or baling hay to meet the requirements of foreign dealers and consumers.

The bales of hay received here are not always what they are represented to be, or what they should be, and naturally complaint is made of the fraud. On the outside, as far as can be seen, the hay is good; in the middle it is rotten or of an inferior quality, a condition of affairs which at times has caused the seller at this port great inconvenience and loss—the purchaser in the interior coming back on him for indemnity.

This sort of baling can not fail to bring American products into disrepute, and it must ultimately seriously injure not only the producers, but everyone connected with the trade.

If the name and place of the press and the owner of the hay were marked on each bale, it would be a step toward the object in view, as the fraud might then be traced back to the proper source; but if an inspector of hay could be established at the place where the bales begin the journey to European ports, it would be a much more effectual protection and give confidence to the trade. The loss on sales of hay in this district has recently been considerable, and dealers will in the future be more particular in giving orders and selecting agents to execute them.

Hay has never before come to Europe in such bad condition as it has recently, the bales being badly packed or pressed, and not infrequently in a state of decay. If there were inspectors and proper warehouses at the shipping ports, the factors and brokers would not be able to sell hay in such condition except at depreciated prices.

In regard to the baling of hay in the most convenient method for shipment, all that has been said in regard to cotton, except as to an outside covering, applies equally to hay. The bales should be firmly pressed and should not weigh over 300 pounds each.

C. W. CHANCELLOR,

Consul.

HAVRE, *August 30, 1893.*

TIN AND TIN ORES IN AUSTRALASIA.

TOTAL OUTPUT.

The total value of the production of tin and tin ores in the six colonies—Queensland, New South Wales, Victoria, Tasmania, South Australia, and Western Australia—from its earliest discovery to the end of 1891 is given in the Year Book of Australia as £19,106,063 (\$92,979,655.58), to which the several colonies are reported as contributing as follows:

Colony.	Amount.	
New South Wales.....	£9,526,796	\$46,362,152.18
Tasmania.....	5,300,387	25,794,333.33
Queensland.....	3,920,316	19,068,217.81
Victoria.....	355,758	1,731,296.30
Western Australia.....	450	2,189.92
South Australia.....	356	1,732.47

An absolutely accurate statement of quantities and values is unattainable. The amounts given for the earlier years of production are often but estimates, both as to weight and value, and little effort was made to keep a record of exports. Even now the ports of final destination are not given, unless the

shipment is made direct. Thus no statistics of shipments to the United States give any idea of the amount of Australasian tin which may have been consumed there. And, again, the facilities for dressing ore are as widely different as the fields are separated one from another. Ores have been shipped in their natural state and in every condition from that to "pig tin," and when shipped for treatment the returns are sometimes of net value and again of gross amounts received. In some years the returns are of "tons raised;" for other years of tons exported; and ores sent from one colony to another for final export may be twice credited as exported. The amounts given in the above tables are no doubt largely inflated in this manner, but are given for comparison. These errors are, however, being eliminated from Australasian statistics and belong more particularly to former years.

The above table demonstrates the fact that stanniferous ores are found in each of the colonies in appreciable quantity, and production here has added materially to the world's supply of tin. The earliest recorded discovery of tin ore is that made by the late Rev. W. B. Clark, who made a note of the finding of stream tin in New South Wales so early as 1853; but the earliest mining did not begin till 1872, at Vegetable Creek, in the same colony.

This effort seems to have been an incentive to search in the other colonies, and now it is known that stanniferous ores are to be found in or near the "dividing range," from the northwest corner of the continent along the northern and eastern coasts to the southeastern corner, and in Tasmania from the northeast, round by the northwest to the southwest; and new discoveries are being reported every year.

Large portions of the territory of Australasia have never been prospected, and scientific and other experts declare their belief that, when systematically and scientifically explored, much larger quantities of stanniferous ores will be found than have yet been opened up; but it is a question if they could be made of use. The unexplored portions of Australia remain so to this day from the absence of water, and it is for this reason that the well-known rich tin lodes in the northern territory of Western Australia and South Australia remain unworked.

WESTERN AUSTRALIA.

In Western Australia there is but one proclaimed tin field. This is the Greenbushes tin field, having an area of 50 square miles and situated on the northeast side of the Blackwood River. A small quantity of stream tin was found in a gully near the river, and at present there are about 12 acres being worked. There have been exported 376 tons to the end of 1891.

Mr. Woodward, the government geologist, reports (December, 1891):

The field is as yet only in its infancy and is comparatively undeveloped, but will probably, when more leads are opened up, support a large mining population, especially if worked in "claims," as it is undoubtedly a "poor man's field."

Tin has also been found on the Pilbarra gold field, but nothing is being done at present to work the deposit.

SOUTH AUSTRALIA.

The tin mines of South Australia are located in what is known as the Northern Territory, which lies entirely within the tropics, and are distributed very generally over the territory. Stream tin does not occur; all discoveries have been of lodes carrying from $1\frac{1}{2}$ to 3 per cent of tin.

The annual report of J. V. Parkes, esq., inspector of mines, locates and describes some fifteen mines upon which work had been commenced. He speaks very encouragingly of the prospects, but, owing to the climatic conditions, there has been but little settlement and there are no means of communication. The rainfall is small, and for the greater portion of the year water is very scarce. There are no reliable statistics of the amount of tin or tin ores which have been exported. The inspector reported of the largest mine—the New Port Darwin Tin-Mining Company: "I could not ascertain the amount received for tin, nor any information of the quantity of ore treated." He gives returns of the quantities and value of this oxide from some of the mines as follows:

Mines.	Quantity.	Value.	
	Tons.		
G. L. Barrett claim.....	60	£3,607	\$17,553.46
Mount Shoobridge.....	71	5,070	24,673.15
Mount Tolmer.....	46½	3,500	17,032.75

Pickford's Lease shipped 22 tons, without dressing, to Swansea and realized £150 after paying all expenses.

These items show that the Year Book statistics given above are not correct for South Australia.

VICTORIA.

The undersecretary for mines says:

With respect to tin-mining, no more accurate estimate can be formed at the present time of its possible magnitude as an industry than could have been formed twelve months ago. It is true that 869 tons more have been obtained during 1891 than during the previous year, but the total yield—1,778 tons—falls far short of what is required to establish tin as an important factor in the general mining operations of the colony. Until the lodes at Mount Wills have been thoroughly opened up, any opinion formed or expressed must necessarily be of a purely speculative character.

The number of leases for tin-mining issued by the government during 1891 was 229, covering an area of 12,002 acres, principally in the Beechworth and Gippsland districts. The total amount produced to January 1, 1892, according to the government statist, was of a value of £679,111 (£3,304,893.68).

The city of Melbourne, from its geographical location and facilities afforded, has been for many years the principal city of exchange in the colonies, and "Melbourne prices with freight added" is a usual quotation.

The Melbourne quotations for tin may be taken as equivalent to the Australasian prices, and are here given in full for each year since 1876. The extreme range in price in these sixteen years has been from £56 14s. 8½d. (\$276.10) in 1879 to £165 14s. 11½d. (\$806.60) in 1888, since which time the lowest quotation has been £88 13s. 9½d. (\$431.60) and the highest £100 14s. 2d. (\$490.10).

Annual average price of pig tin in Melbourne.

Year.	Price.		
	£	s.	d.
1876.....	69	15	8½
1877.....	65	13	6½
1878.....	58	1	5
1879.....	69	15	8½
1880.....	83	19	3
1881.....	89	16	4
1882.....	100	16	3
1883.....	90	19	0
1884.....	78	10	4
1885.....	85	1	10
1886.....	94	15	0
1887.....	107	3	8
1888.....	121	7	3
1889.....	93	14	5½
1890.....	94	15	0
1891.....	92	2	7
1892.....	91	3	1½

This market is generally £1 (\$4.86) below the London quotations, this being the usual cost of insurance and transportation by steam vessels to London. The quotations in Tasmania and Queensland are from 12s. 6d. to £1 below the Melbourne price (the amount being freight and charges to Melbourne), while the Sydney quotations are at or near Melbourne figures, there being but little, if any, difference in freight to London from either place.

No statistics of shipments direct to the United States are given in any of the colonies, excepting New South Wales, and these were made by the Oceanic line of steamers—Sydney to San Francisco. The amounts will be found under the heading "New South Wales."

NEW SOUTH WALES.

The mining of tin in New South Wales dates from the discovery of stream tin ore at Vegetable Creek in 1872, although for twenty years previously the existence of such ore in the colony had been known. When attention was once turned in this direction, the territory in which tin ore abounded was found to be of large extent, and some of the fields proved to be very rich.

Imports and exports, New South Wales.

Year.	Imports.		Exports.	
	Ingots.	Ore.	Ingots.	Ore.
1887.....	£319,902	£192,314	£296,535	£2,150
1888.....	319,995	178,223	224,052	1,110
1889.....	99,975	139,751	32,285	124
1890.....	97,751	159,920	106,852	35
1891.....	98,168	122,657	83,121	255

The value of tin, the product of New South Wales, exported to the close of 1891, according to official statistics, was as follows:

Year.	Value.	
1872 to 1879 (inclusive).....	£1,752,734	\$8,529,680.01
1880.....	354,252	1,723,967.35
1881.....	568,795	2,778,040.86
1882.....	541,413	2,634,786.36
1883.....	448,887	2,184,508.58
1884.....	281,188	1,368,401.40
1885.....	308,760	1,502,580.54
1886.....	277,545	1,350,672.74
1887.....	311,889	1,517,807.81
1888.....	309,510	1,506,230.41
1889.....	207,670	1,020,626.05
1890.....	179,057	871,380.89
1891.....	133,963	651,930.93
Total.....	5,675,663	27,630,613.93

Exports of tin ingots from New South Wales.

Countries.	1891.		1892.	
	Quantity.	Value.	Quantity.	Value.
	<i>Cwts.</i>		<i>Cwts.</i>	
United Kingdom.....	59,075	£260,577	64,570	£296,815
Victoria.....	120	544		
Queensland.....	486	2,237	510	2,400
South Australia.....	199	907	15	71
New Zealand.....	991	4,459	745	3,494
Fiji.....	2½	10		
Hongkong.....	1	5	4	19
New Caledonia.....	144	666	433	1,978
Sandwich Islands.....	20	90		
United States.....	16,665	75,395	15,190	72,889

The decrease in the annual output of tin is due to the working out of the discovered deposits and the failure so far to find new ones. The stanniferous area of this colony has now an extent of about 8,700 square miles; but there are large areas still unexplored, and there is every reason to expect the finding of new fields as rich as those which have been worked out. Fifty samples of tin ore from new districts were sent last year to the laboratory of the

department of mines for assay, and an advance in the price of tin would greatly stimulate efforts in prospecting. It is estimated that there were 1,951 miners, including Chinese, employed during 1891 in tin-mining in New South Wales.

Quantity and value of tin exported to the United States during the years 1872-'92.

Year.	Quantity.						Value.		
	Ingots.			Ore.			Domestic produce.*	Other produce.	Total.
	Domestic produce.*	Other produce.	Total.	Domestic produce.	Other produce.	Total.			
	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.		£80	£80
1872.....					20	20			
1873.....	23		23				£122		122
1874.....	1,903		1,903				8,292		8,292
1875.....	3,086		3,086				12,794		12,794
1876.....	4,402		4,402				15,702		15,702
1877.....	5,044		5,044				16,881		16,881
1878.....	5,521		5,521				16,929		16,929
1879.....	5,869		5,869				19,708		19,708
1880.....	10,137	220	10,357	20		20	41,781	880	42,661
1881.....	12,211	1,280	13,491				54,722	5,345	60,074
1882.....	12,815	760	13,575				65,594	3,629	69,223
1883.....	11,613		11,613				54,343		54,343
1884.....	8,784	201	8,985				35,832	830	36,662
1885.....	8,798	251	9,049				36,946	1,038	37,984
1886.....	10,354		10,354				49,169		49,169
1887.....	15,610		15,610				81,988		81,988
1888.....	15,110		15,110				92,336		92,336
1889.....	20,579		20,579				97,560		97,560
1890.....	14,881	1,172	16,053				68,847	5,537	74,384
1891.....	16,665		16,665				75,395		75,395
1892.....	14,637	553	15,190				70,305	2,584	72,889

* These figures include tin ingots produced from ore imported from the other colonies, chiefly from Queensland, to be refined in New South Wales.

The two colonies of Australasia most actively engaged in tin-mining at the present time are Queensland and Tasmania. They are the largest producers and are probably capable of a larger increase in production than any of the others. For these reasons a list of questions was prepared and forwarded to those colonies on May 27 for special reports upon the subject.

QUEENSLAND.

In reply to the inquiries sent to Queensland, the government geologist—Prof. Robert L. Jack—forwarded a report which has been condensed as below:

TIN PRODUCTION IN QUEENSLAND.

The following notes embody all the information I have been able to gather on the subject, in response to the request expressed in the letter from the United States consul-general to the honorable the minister of mines, dated May 27, 1893. It is impossible to give the information under the headings indicated, owing to the manner in which the official returns have been kept.

ROBERT L. JACK,
Government Geologist.

BRISBANE, July 17, 1893.

Stanthorpe—production of stream tin, according to annual reports of the department of mines.

Year.	Quantity.	Value.
	<i>Tons.</i>	
1872.....	1,407	£108,816
1873.....	8,938	606,184
1874.....	5,702	358,550
1875.....	4,475	237,879
1876.....	4,315	187,201
1877.....	3,335	133,432
1878.....	2,849	88,366
1879.....	2,745½	115,131
1880.....	2,653½	135,237
1881.....	2,272½	146,359
1882.....	2,451	197,504
1883.....	817	40,233
1884.....	934	41,096
1885.....	503	25,150
1886.....	430	24,940
1887.....	356	22,072
1888.....	414	26,910
1889.....	310½	16,146
1890.....	277	14,404
1891.....	244	12,680
1892.....	246	13,043

Herberton (including Walsh Tate and Tinaroo)—production.

Year.	Lode-tin ore.	Stream-tin ore.	Value.
	<i>Tons.</i>	<i>Tons.</i>	
1879.....	131		£5,260
1880.....	193		7,740
1881.....	1,183		47,340
1882.....	1,810		72,400
1883.....	2,746	600	134,940
1884.....	1,902	450	84,674
1885.....	2,096	250	117,878
1886.....	2,198	250	122,920
1887.....	1,508		126,560
1888.....	1,390	171	78,150
1889.....	1,560	258	90,900
1890.....	1,690	391	104,050
1891.....	1,063	314	68,850
1892.....	1,181	208	69,450

Mount Spurgeon—stream-tin ore raised (amount exported).

Year.	Quantity.	Value.
	<i>Tons.</i>	
1887.....	600	£48,000
1888.....	370	18,500
1889.....	130	6,980
1890.....	34	1,530
1891.....	85	4,845
1892.....	145	8,410

Annan and Bloomfield—production.

Year.	Quantity.	Value.
	<i>Tons.</i>	
1885.....	300	£3,144
1886.....	148	7,400
1887.....	944	58,783
1888.....	1,051	66,949
1889.....	690	38,000
1890.....	578	34,979
1891.....	479	27,094
1892.....	421	24,000

Cannibal Creek, Palmer gold field—production (mainly stream tin).

Year.	Quantity.	Value.
	<i>Tons.</i>	
Prior to 1880.....	450	£22,500
1880.....	759	38,500
1881.....	535	16,847
1882.....	360	11,340
1883.....	199	10,119
1884.....	70	3,556

Kangaroo Hills, Running Creek, Dingo Creek, and Running River—production (mainly stream tin).

Year.	Quantity.	Value.
	<i>Tons.</i>	
1883.....	25	£1,000
1884.....	27	1,134
1885.....	105	5,785
1886.....	127	6,864
1887.....	83	(*)
1888.....	117	(*)
1889.....	137	(*)
1890.....	38	(*)
1891.....	58	290
1892.....	188	8,195

* Not stated.

In the above returns "spot values" of dressed tin ore are given, based on the prices ruling at the time.

The quantities are variously tabulated as "ore raised," "exported," "smelted," etc., but I believe they are in reality the amounts exported. It would be impossible even to estimate the amount raised in one year, as the dirt raised in one year may not be dressed till the next, and the "black tin" may not be smelted for some time.

Queensland tin ores have been smelted at Brisbane, at Tent Hill, in New South Wales, and a small portion at the mines. It is quite possible that of late years sufficient tin ore from Queensland may have been smelted at Tent

Hill to balance the amount of New South Wales ore, which in the early days was exported through Queensland; so I am inclined to regard the tabulated returns as the nearest possible approximation to the truth.

Stanthorpe tin ore is entirely "stream tin," and the area which has been worked may be roughly estimated at 50 miles in length by 4 miles in breadth.

By far the greater part of the output of the Herberton field is "lode-tin" ore. Some has been smelted on the field, and the ports of shipment are Port Douglas and Cairns. The area worked over may be roughly estimated at 3,000 miles, although there are sometimes wide intervals between the mines. The deepest mine from which ore has been taken is 600 feet. There is still a large field to be worked.

None of the ore from the Mount Spurgeon field has been smelted in the colony, the material after sorting being shipped either to New South Wales or England for treatment. There are as yet but two mines opened, about 10 square miles in extent.

The production at Annan and Bloomfield has been of both "lode" and "stream" tin ore, which has been shipped through Cooktown to either England or New South Wales. The mines worked are all included in an area of 125 square miles.

The Cannibal Creek mines have not been producing since 1884. The territory worked over was about 30 square miles in extent, and the ore was both "lode" and "stream" tin.

The territory known as the Kangaroo Hills field, the Running Creek, the Running River, and the Dingo Creek fields may extend to 300 square miles, with wide intervals between the mines. The ore has been almost entirely stream ore, and has been shipped for treatment.

Tin ore was first discovered in Queensland on Wendubbermere Creek in 1867. Nothing was done with it till February, 1872, when the Stanthorpe mines were opened.

With few exceptions, there has been but little systematic mining on the known lodes, and it is believed that there are still large stores of stanniferous ores in the colony.

TASMANIA.

The probable occurrence of tin in Tasmania was mentioned by Mr. Bass, surgeon of H. M. S. *Reliance*, in January, 1799, who found on the north coast of Tasmania, on the beach of Preservation Island, near the south coast of Barren Island, "a very considerable quantity of black metallic particles, which appear in the granite as black, shining specks, and are in all probability grains of tin."

A rumor of this report has always prevailed in the colony from the days of its earliest settlement, but no systematic effort was made to trace its origin, nor was scientific search made for the place from whence these black, shining specks could have come.

The enthusiastic prospector Mr. James Smith, of Westwood, became imbued with the idea that it could be found, and in 1872, after years of search and solitary wanderings in the dense forests of the region, brought samples of ore from Mount Bischoff to Launceston, and the largest tin mine of the world was opened.

Of this mountain it is said, "Everything you see about here contains tin more or less." The base of operations is 2,600 feet above sea level, and the mining consists in quarrying the face of the mountain, which is done at different levels, one above the other, the "faces" being from 60 to 100 feet in height, known variously as the "porphyry," the "white," the "red," the "slaughterhouse," and the "chrome" face, etc., the ore being delivered through chutes to the mills below. The original working capital of the Bischoff Company was £6,100 (\$29,685.65), which has been added to from the profits to the amount of £100,000. The first dividend was paid in 1878, amounting to £12,000. The total output of ore to April 30, 1893, was 41,200 tons, and dividends paid to that date amounted to £1,269,000 (\$6,175,588.50).

GEORGE H. WALLACE,
*Consul-General.**

MELBOURNE, *August 14, 1893.*

CONSUL WEBSTER'S REPORT.

Although tin was reported to have been discovered in Tasmania long prior to 1871, the reports were so vague that little importance was attached to them. The discovery by Mr. James Smith (after years of patient toil and prospecting) in the year 1871 of the valuable tin deposit at Mount Bischoff, in the northwest, probably the richest tin mine in existence, aroused general attention. Soon after tin in payable quantities was discovered in the northeast, almost immediately after similar deposits of stream tin in the eastern districts, and in 1875 a discovery was made at Mount Heemskirk, in the western district.

Tin ore, associated with the granites, is generally found in the form of stream tin in drifts, and the greater part is derived from the waste of lodes, rather than from the lodes themselves. Some portions of the celebrated

*INCLOSURES IN REPORT OF CONSUL-GENERAL WALLACE.—The following inclosures are filed for reference in the Bureau of Statistics, Department of State:

New South Wales.—"Geology of the Vegetable Creek Tin-Mining Field, New England District, New South Wales, with maps and sections" (department of mines, Sydney, 1877).

South Australia.—"Northern Territory Mines and Mineral Resources" (report of inspector of mines, 1891).

Tasmania.—Reports of the secretary of mines, 1890, 1891, and 1892; "Waratah and Penguin Mining Districts" (1884), "Stanniferous Deposits at Ringarooma" (1884), "Blue Tier Mining District and Its Tin Deposits" (1886), "Discoveries of Tin Ore on the Brookstead Estate" (1892), reports presented to Parliament of Tasmania; communication from Mr. E. J. Freeman, of Hobart, transmitting a report from the government inspector on "Nugget Tin Mining in the Ringarooma District" (1893); report on the tin mines of the Blue Tier (geological surveyor's office, Launceston, 1893); report on Thoreau's Deep Lead, near George's Bay (mines office, Launceston, 1893); map of Tasmania (survey office, Hobart).

Red Face, at the Bischoff Mine, are supposed to be simply the remains of a decomposed tin lode. The average assay of dressed tin ore is 71 per cent.

The area of known stanniferous country is estimated at 73,000 acres. The estimated area now being worked is 25,000 acres. The manner of working at the larger mines is by ordinary mining, the stone or gravel being crushed by stamp mills and afterward dressed by trommels, buddles, frue vanners, etc. At the smaller mines the process is simply washing down the drift and gravel with hydraulic nozzles and streaming the tin by a process known as ground sluicing. The depths vary from surface works to 60 to 80 feet.

The tin is smelted in the colony.

The mines are operated by owners and companies within the colony. There is no accurate record of the capital invested.

Annual production from first to date.

Year.	Ore produced.	Year.	Ore produced.
	<i>Tons.</i>		<i>Tons.</i>
Prior to 1882.....	(*)	1887.....	5,702
1882.....	5,595	1888.....	5,245
1883.....	6,010	1889.....	5,550
1884.....	5,527	1890.....	4,714
1885.....	5,461	1891.....	4,322
1886.....	5,728	1892.....	4,971

* No record.

Annual shipments from first to date.

Year.	Tin ore and metal exported.	Year.	Tin ore and metal exported.
	<i>Tons.</i>		<i>Tons.</i>
Prior to 1879.....	13,822	1886.....	3,776
1879.....	4,563	1887.....	3,607
1880.....	3,954	1888.....	3,777
1881.....	4,124	1889.....	3,674
1882.....	3,670	1890.....	3,214
1883.....	4,122	1891.....	3,293
1884.....	3,707	1892.....	3,203
1885.....	4,242		

DESTINATION.

The official records would be very misleading, owing to the small exports from the colony direct to the United Kingdom and the entire absence of direct exports to the United States. The greater part has been transhipped at one of the Australian ports, and hence the export appears as made to the port of transshipment and not to its ultimate place of destination. For this reason I give no particulars under this head.

PRICE.

The average price of metal in Tasmania from January 1, 1876, to December 31, 1892, inclusive, was \$421.50. The fluctuations in some years were excessive, *e. g.*, in 1879, from \$272.50 to \$438; in 1887, from \$472 to \$796; and in 1888, from \$350.50 to \$803.

FREIGHTS.

The freight to the United Kingdom has varied very considerably. At one time the metal was carried at a mere nominal rate of 2s. 6d. per ton and less, but of late it has ruled at about £1 10s. per ton in mail steamers via Sydney and Melbourne.

GENERAL REMARKS.

The sources of the present supply are mainly from the celebrated Mount Bischoff mine at Waratah, in the northwest, and from the extensive area in the northeast of the island. Small quantities are obtained from the Mount Heemskirk district, in the west, and from Cox's Bight, in the southwest.

The Mount Bischoff mine has continued to yield a steady supply of ore since it was first opened up, and is reported to show not the slightest appearance of being worked out.

With one small exception, the whole of the tin ore from the north-eastern district is from alluvial deposits, over a very wide area, but there are extensive lode formations which have so far only been in one instance profitably worked.

Discoveries of apparently great importance have recently been made on the St. Paul's River, southeast from Ben Lomond.

At Mount Heemskirk, on the west coast, small quantities of alluvial tin are raised, but it is quite possible that the lodes here may prove to be of value. Efforts of an abortive kind were made about eight or nine years ago to develop these lodes, to which renewed attention has been directed owing to a recent report of a favorable nature; in consequence of which, I am informed, operations are likely to be recommenced on one lode.

The field at Cox's Bight appears so far to be of small extent, and the yield is insignificant.

From the opinion of those competent to judge, the conclusion seems to be irresistible that not only will Tasmania continue to be a large tin-producing country, but that there is a strong probability of a large increase in the yield from its mines.

I am much indebted to the secretary of mines for his ready courtesy in affording me information and supplying the official reports accompanying this, and also to the manager of the Mount Bischoff Tin-Mining Company—Mr. H. Ritchie—to Mr. H. Simpson, and others for their assistance.

A. G. WEBSTER,

Consul.

HOBART, *June 20, 1893.*

THE GRAND DUCHY OF LUXEMBURG.*

POLITICAL AND GEOGRAPHICAL.

The reigning monarch was born in 1817 and became Grand Duke of Luxemburg in 1890. The Government is a constitutional monarchy. The legislature consists of forty-five members elected for six years by direct vote of the cantons. A voter must be at least 25 years old and is required to pay for the privilege of voting 15 francs (§3).

The Grand Duchy was made neutral territory by the treaty of London, May 11, 1867. It is a member of the German Customs Union, but is entirely independent of Germany. Both French and German money are current, though prices are usually quoted in francs. It is very perplexing in paying a bill to receive change partly in marks and pfennings and partly in francs and centimes. All difficulty is, however, avoided by the general adoption in the Grand Duchy of a fixed ratio of value, 100 francs being accepted as the equivalent of 80 marks.

The Grand Duchy is divided into two judicial districts, thirteen cantons, and one hundred and thirty communes. It has an area of 2,587.45 square kilometers, or almost exactly 1,000 square miles.

POPULATION.

On December 1, 1890, it had 211,088 inhabitants, of whom 105,419 were males and 105,669 females. The population per square mile was 211.

Divided according to religions, there were 208,921 Roman Catholics, 1,058 Protestants, 39 other Christians, 1,009 Israelites, and 61 persons whose religion was not specified.

The natives of the Grand Duchy numbered 195,050; Germans, 9,925; Belgians, 3,136; French, 2,226; Italians, 259; Austrians and Hungarians, 167; Swiss, 55; Hollanders, 55; English, 31; Russians, 25; other Europeans, 18; Americans, 68; non-Europeans, 11; and of unknown nationality, 62.

REVENUE AND EXPENDITURES.

The receipts and expenses for the years 1889-'91 are shown by the following table:

Description.	1889.	1890.	1891.
	<i>Francs.</i>	<i>Francs.</i>	<i>Francs.</i>
Receipts, inclusive of the surplus from the preceding year.....	9,403,261	10,350,205	12,519,924
Expenses.....	7,398,245	7,423,945	9,000,824
Excess of receipts.....	2,005,016	2,926,260	2,519,100

* Luxemburg was created a commercial agency on June 30, 1890. This is the first report relating to the Grand Duchy of Luxemburg which has appeared in these publications.

*Budget for 1893.***Receipts:**

	Francs.
Surplus from preceding year.....	1,923,000
Direct taxes and excise.....	2,373,900
Customs duties.....	2,500,000
Registration and domains.....	1,432,800
Post, telegraphs, and telephones.....	730,500
Prisons, etc.....	176,000
Other receipts.....	411,200
Total receipts.....	*9,547,400

Expenditures:

Civil list.....	200,000
Government.....	144,850
Chamber of deputies.....	39,000
Council of state.....	17,000
Grand ducal secretaries.....	12,300
Foreign relations.....	39,100
Justice.....	369,100
Culture.....	408,900
Gendarmerie and volunteers.....	400,400
County chamber.....	36,300
Office of the receiver-general.....	19,700
Collection of taxes, etc.....	367,400
Registration and domains.....	146,400
Customs service.....	54,200
Saving fund.....	26,000
Pensions.....	512,000
Administration of public works.....	199,526
Roads.....	582,500
Buildings.....	327,655
Domains and the fortress.....	46,700
Mines.....	35,000
Communal works.....	409,000
Public debt.....	745,950
District commissariat.....	35,500
Administration of forests.....	43,500
Sanitary service.....	248,850
State baths at Mondorf.....	44,541
Post, telegraphs, and telephones.....	904,550
Agriculture.....	503,800
Commerce and industry.....	38,700
Education, higher and middle.....	290,000
Education, primary.....	495,450
Arts and sciences.....	46,750
Prisons, etc.....	183,000
Central hospital and orphan asylum.....	218,471
Public beneficence.....	101,440
Police and administration.....	143,900
Sundry expenses.....	60,700

Total expenditures..... †8,498,133

*\$1,842,648 (\$8.73 per head).

†\$1,640,140.

The public debt amounts nominally to 16,170,000 francs (\$3,120,810), the rate of interest being 4 per cent. The amount required annually for interest and amortization is 730,000 francs (\$140,890).

RAILWAYS.

The William-Luxemburg line (managed by the Alsace-Lorraine railway department) has a length of 117 miles; the Prince Henry line, 104 miles; the secondary railway, 25 miles; and the canton railway, 27 miles.

PUBLIC SERVICE, 1891.

Post-office.—Number of offices, 80; letters, 3,220,173; postal cards, 934,860; samples, 74,336; printed matter, 2,636,214; mercantile papers, 20,908; money orders, 231,886; postal checks, 125; receipts, 617,672.50 francs (\$121,210); expenses (inclusive of telegraph and telephone expenses), 794,003.93 francs (\$153,243).

Telegraphs.—Length of the State line, 261 miles; length of wires, 510 miles; length of railway wires, 475 miles; telegrams, 105,622 (20,027 domestic, 79,277 international, and 6,318 free and official telegrams); receipts, 57,347.40 francs (\$11,068).

Telephones.—Number of systems, 45; length of lines, 346 miles; length of wire, 1,169 miles; total number of communications, 1,247,067; receipts, 59,717.50 francs (\$11,525).

Army.—The laws of February 16, 1881, March 2, 1881, and April 29, 1885, fixed the armed force of the Grand Duchy at one company of gendarmes, consisting of 2 officers and 135 men, occupying thirty-two stations, and one company of volunteers consisting of 6 officers and 170 men (including 29 musicians). The effective strength of the volunteers can, in exceptional cases, be increased to 250 men.

INDUSTRIAL.

In the southern sections of the Grand Duchy, as well as in the adjoining sections of France and Lorraine, the iron industry is very important. When prices fall sufficiently to render competition with American foundries possible, much business is done with the United States. There are eighteen iron works in the Grand Duchy.

At Septfontaines and Wasserbillig there are porcelain factories.

The cloth factories of the Grand Duchy employ 2,000 workmen and consume annually about 2,000,000 pounds of raw material.

At Manternach, Wiltz, and Fischbach there are paper mills.

In the city of Luxemburg and its vicinity large quantities of leather gloves are manufactured for our markets.

The tobacco manufacturing industry is also very important.

There are every year very important horse fairs at Ettelbruck, Diekirch, Mersch, and Lintgen; but the most important fairs take place in Luxemburg. Thousands of horses are sold annually to other countries at an average price of about \$120 each.

For its horticulture, and especially its rose fields, Luxemburg is famous. In the Grand Duchy there are nine State nursery gardens, which are used exclusively for raising trees for use in the State forests. There are also many private fruit-tree nurseries.

There are also important milling establishments and oil refineries in the Grand Duchy.

Wine is produced in the valleys of the Moselle and Sauer rivers, the vines growing on the steep hillsides, as is the case along the Rhine. In the city of Luxemburg there is a large champagne factory.

THE WINE YIELD OF 1893.

In quantity this year's production of wine is one of the best of the century. The amount is larger than that of any year since 1875. One "fuder" per 1,000 square meters (264.17 gallons per 1,196 square yards) is here regarded as a full yield, this figure having been last reached in 1881. In 1893, however, there are many vineyards which yield double this quantity, *i. e.*, 20 fuders per hectare (2,135 gallons per acre), which is four times as great as the average yield of the past forty years.

In this respect the contrast with 1892 is very striking, for last year the canton of Remich produced almost nothing, and the wine production of the entire Grand Duchy was only about 1,200 fuders—little more than 100 gallons per acre.

The quality of this year's yield is exceedingly good, many samples having been found extraordinarily fine.

The vintage this year was one of the earliest of the century. Usually it begins in the second half of October. This year it began in most instances on September 25, in some cases even earlier. The picking of the overripe grapes began on September 15.

As has already been said, this year's yield is unusually large, in many cases 20 fuders per hectare (2,135 gallons per acre). Placing the average at 12 fuders per hectare (1,280 gallons per acre), the 3,464 acres of vineyard in the Grand Duchy of Luxemburg have this year produced 4,433,920 gallons of wine. Taking the lowest price ever known here—27 cents per gallon—the value of this year's wine yield is \$1,200,000. Though the price per gallon last year was twice as much, the entire value of the wine produced was only about \$150,000.

THE CITY OF LUXEMBURG.

Though small in size—it has only 20,000 inhabitants—the city of Luxemburg is of great historical interest. As a fortress until 1867 it ranked with Gibraltar, the walls and precipices being even now, on three sides of the town, more than 100 feet in height. The fortifications of the town were begun by the Romans and subsequently extended by the Franks, Burgundians, Dutch, Spanish, English, French, Austrians, and Germans. The oldest part of the fortifications—the Bouc, or "Roman Castle"—is an immense,

solid rock 125 feet high, from which deep valleys extend in three directions. This great rock is honeycombed with passageways, staircases, and large rooms. It is estimated that 4,000 men could take refuge within this rock. All of the other fortifications of the city were likewise undermined and connected, and it is still possible to pass for considerable distances through secret passages beneath the city.

In consequence of the provisions of the treaty of London, Luxemburg has ceased to be a fortress, and is now an exceedingly picturesque and prosperous capital town.

GEORGE H. MURPHY,
Vice-Commercial Agent.

LUXEMBURG, *September 29, 1893.*

RUSSIAN BEET-SUGAR INDUSTRY.

HISTORY OF THE RUSSIAN INDUSTRY.

Inasmuch as the beet industry is one of the most important branches of agriculture and manufacture in Russia, I have thought that a somewhat detailed report upon this subject would be of value.

Beet sugar practically supplies the whole sugar wants of the Empire, and it is all homemade. Moreover, enormous quantities of this kind of sugar are exported to Austria, Germany, and other countries at exceedingly cheap rates. In fact, the excess over the home demand is forced out of the country and sold abroad at a price below that prevailing at home. This is one of the methods adopted by the sugar interests to maintain uniform profits to the growers of beets and to the sugar manufacturers as well.

The cultivation of beets took its rise in Russia at the beginning of the present century, simultaneously with its introduction into western Europe. The Government from the first has taken an exceedingly active interest in this industry, ably supported by the several agricultural and economic societies of the Empire.

To the first organizers of beet plantations and sugar factories handsome prizes in money and in Government concessions were awarded. In fact, this industry has been in every way encouraged, supported, and patronized by the Government.

The first beet-sugar factory was established in 1802 by Gen. Blankenagel at the village of Alabiev, in the government of Tula. The general received a Government loan of 50,000 rubles for a term of twenty years, to be paid off only after the first ten years and at a nominal rate of interest. The founder was also granted permission to sell up to 1,000 vedroes (3,249 gallons) of spirit obtained from the beet sirup, and without any limitation whatever as to price. This factory was soon followed by several others es-

tablished on a similar basis in the governments of Moscow, Smolensk, Grodno, and Nizhni-Novgorod.

This enormous and now exceedingly profitable industry was attended in its infancy with untold embarrassments and with extremely discouraging results; in fact, it is believed that, had not the Government given substantial aid and encouragement to the originators of the movement, Russia would be to-day importing her sugar. In the face of an unfavorable climate and soil for the growing of beets and the bad quality of the crop, due largely to inexperience and imperfect methods of cultivation, sugar factories continued to exist for more than thirty years without any definite success. In 1840 Count Bobrinsky started sugar factories as follows: One in Smela, one in Yablonovka, one in Groushevka, all in the government of Kiev, now the center of beet cultivation in Russia. Owing to the energy and investigating and experimental spirit of the count, the beet-sugar industry became an established fact, and the beet fields began to develop throughout the governments of Kiev, Volyn, Podolsk, and in the neighboring governments. Count Bobrinsky discovered that in order to grow beets containing the quality of juice suitable and profitable to sugar-making, special and intelligent methods of farming were absolutely necessary. The difficulties he found not to lie in the unfavorable qualities of the soil and climate, nor in the species of beet grown, so much as in the methods of cultivation.

He discovered, for example, that the free use of animal manure, while it gave a large crop as to bulk, produced a beet sirup of very low quality. One of the most serious difficulties he had to contend with was the tendency of the beet-growers to raise large crops by increasing the size of the beet. To overcome this difficulty he was forced to enter into contracts with his beet-growers, requiring them not to sow on freshly manured fields and confining them to such definite and special methods of cultivation as he had found by experiment to produce juice of satisfactory quality.

Similar restrictions are enforced by the sugar manufacturers to-day, not only on their own plantations, but also on others supplying their factories. Six years after the establishment of Count Bobrinsky's sugar factory in Smela there were about 30,000 acres under beet cultivation in the government of Kiev alone. From these fields over 260,000 cwts. of beets were harvested, an acre producing about 9,000 pounds, costing the producer about 16 cents per berkovets (360 pounds), thus showing an income amounting to 56 per cent of the capital invested. At this time there were in the governments above mentioned forty-seven sugar factories, with a total annual output valued at \$1,250,000, the sugar selling at about 8 cents per pound. As beets give from 7.5 to 9.5 per cent of sugar, a berkovets (360 pounds) will produce about 30 pounds. Since the campaign of 1846-'47 the cultivation of beets has developed enormously. Sugar beets are now grown in fourteen different governments of the black-soil region and in Poland, the principal governments being those of Kiev, Podolsk, Kharkov, Kursk, and Warsaw.

PRESENT EXTENT OF THE INDUSTRY.

The following table, in American equivalents, from official data furnished by the imperial ministry of agriculture, shows the area under sugar beets in the several governments of Russia from 1886 to 1892, inclusive:

General area of beet plantations.

Governments.	1886.	1887.	1888.	1889.	1890.	1891.	1892.
	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>
Kiev.....	220,533	178,274	183,699	184,632	216,981	202,207	179,644
Podolsk.....	151,585	123,874	136,356	139,203	152,827	152,676	156,910
Kharkov.....	87,944	79,420	78,518	78,576	91,351	104,614	88,447
Koursk.....	55,174	50,012	53,603	54,399	63,633	71,968	69,263
Volyn.....	40,174	37,516	40,462	40,076	44,644	40,348	39,684
Voronezh.....	15,514	15,157	16,270	19,737	21,915	21,591	18,835
Tambov.....	15,741	12,900	12,509	8,973	9,924	12,984	13,585
Chernigov.....	10,430	20,757	22,531	27,380	29,187	30,086	29,502
Tula.....	8,191	6,258	6,739	7,790	6,885	6,480	5,167
Poltava.....	7,068	5,799	6,793	6,255	6,372	6,388	5,822
Samara.....	4,455	3,253	5,423	5,791	6,350	6,191	4,030
Ekaterinoslav.....	4,239	3,730	3,780	4,063	2,754	.....	.....
Bessarabia.....	3,510	1,485	2,295	2,160	2,214	2,160	2,322
Orcl.....	1,350	1,080	1,458	1,444	1,350	1,350	1,971
Warsaw.....	53,506	45,558	48,637	49,718	54,183	55,795	53,551
Kalish.....	10,353	8,968	9,779	9,567	10,160	9,973	9,231
Plotzk.....	6,362	5,794	6,863	6,677	9,374	9,242	7,746
Kelets.....	5,721	5,533	5,346	6,099	5,346	5,316	5,535
Radom.....	4,590	4,765	3,834	3,828	3,636	3,879	3,618
Sedlets.....	3,796	3,512	2,992	2,529	3,410	2,851	2,843
Lublin.....	7,940	5,648	5,907	5,621	5,948	6,847	8,634
Petrokov.....	3,620	2,394	2,629	2,551	2,767	3,105	3,510
Lomza.....	2,432	2,106	2,154	2,052	2,578	2,632	2,565
Total.....	723,228	623,863	663,577	668,621	753,789	756,683	712,591

VARIETIES AND ANALYSES OF BEETS.

The varieties of beets grown in the Empire have their origin very generally in France or Germany. Of French origin the most popular are "Villmorina," "Rose Gative," and white and pink "Simon Legrand;" of German, the most cultivated are those grown by Knauer—the "Electoral," the "Imperial," and the "Pink Imperial"—and those grown by Bestegorn, especially the "Emperor" and "Kleinwanzleben." Of these two classes, the French seem to contain the greatest quantity of saccharine matter, while the German varieties will produce the greatest number of bushels per acre, the difference in the latter respect being about 25 per cent. Neither of these, however, is in any definite sense typical in Russia, as all of the sorts have been more or less mixed from time to time in order to grow a beet best suited to the several varieties of soil and climate. From such crosses several species that may be considered peculiar to Russia have been evolved—namely, the white, pink, and No. 3 "Kalinovka," cultivated by Mr. Valkov, in the Vinnits district of the government of Podolsk. Prof. Zaikevich has made a careful analysis of the "Kalinovka" and reports that

the white "Kalinovka" is better than any of the German varieties grown in the Empire and practically equal to the French.

The following table shows the results of Prof. Zaikevich's analyses of the "Kalinovka:"

Sort of beet.	Sugar.	Quality.	Technical quality.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
French.....	17.25	87.56	15.1
Kalinovka.....	16.4	87.25	14.31
German.....	14.71	86.46	13.02

Analyses and practical experiments made, however, by Knauer and Grossmann in Germany seem to show that the "Kalinovka" excels all others in the amount of the harvest, but is somewhat inferior in the percentage of saccharine matter, as shown by the following table:

Sorts of beet.	Yield per acre.	Sugar.	Quality.	Technical quality.
	<i>Pounds.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
French.....	14,640	17.3	89.22	15.43
German.....	19,950	15.97	89.1	14.23
Russian.....	20,930	14.86	87.79	12.9

A whole series of experiments, however, have been made by different persons in Russia, as well as abroad, which show that the beet cultivated by Valkov contains 16.08 per cent of sugar in its juice, with fluctuations from 13.46 to 18.5, and that the quality averages 86.28, with fluctuations from 81 to 90, these latter depending upon the different kinds of soil and methods of cultivation.

Another species of beet, grown by Mr. Evstratiev, in the government of Kiev, deserves special mention, as careful analysis has shown that the beets grown from his seeds yielded a better crop in quality than those grown from either the "Simon Legrand" or the "Imperial," the percentage of sugar ranging from 13.16 to 15.65, and of quality from 79.21 to 88.7, with technical virtues averaging between 10.4 and 12.88.

Much attention is now being paid to the developing of a high quality of seed and a higher specific gravity of the beet root. In fact, such improvement has been made in late years that many plantations no longer bring seed from abroad, relying entirely upon the home grown, while a few planters have developed beets of such high quality that their seed is now in demand in the foreign markets and are being exported in considerable quantities.

CULTIVATION.

Great care is taken in preparing the soil for beets. The field is twice plowed, the first time from 7 to 8 and the second from 10 to 12 inches deep.

If the beet crop follows cereals, the first plowing is done immediately after harvest and the second just before frost sets in. If beets are sown after fallow, then the field is first plowed about the middle of May, the second plowing taking place about six weeks afterwards, when the field is immediately and thoroughly harrowed. It is interesting to note that in some localities so much care is taken to preserve the looseness of the soil that side-draft harrows are employed, so arranged that the horse follows the plow, walking in the furrow, while the harrow follows the freshly plowed soil. When the field is thus harrowed it remains untouched until spring, when the earth is again loosened with a weeder and cultivator, generally between the 1st of March and the middle of April, as the soil permits.

The implements used in working beet fields are generally of very good construction, sometimes foreign made, especially American, and sometimes homemade after foreign models. The fields are sown generally from the first to the last of April, according to local conditions of climate and soil; and when the young plants are seriously injured by insects the fields are resown, even as late as the last of May. The seed is generally soaked in water and then sown in rows—about 20 to 25 pounds of dry seed per acre. On large plantations it is sown with drills of different construction; those made by Count Bobrinsky, in Smela, and those by Mentsel, in Belaia Tserkov, formerly much used, are now largely supplanted by drills of foreign manufacture.

When the beet sprouts show two to four leaves, the plantation is weeded and at the same time the soil is loosened with the aid of a light hand machine, called "motyga," care being taken to soften only the upper layer of the soil. Afterwards the superfluous plants are weeded out, so that those remaining are from 10 to 12 inches apart. The weeding and loosening are repeated five or six times, until the beet leaves cover the field.

HARVESTING.

The beet harvest begins generally in the last days of August and ends about the 1st of October. The crop is gathered with the aid of a hand spade, or a two-pronged earth fork specially prepared for the purpose, no digging machines having yet appeared for the work. When the beet is taken out of the ground, it is cleaned of earth and topped; the small portion of the root, also, is cut away, great care being taken not to injure the bulb proper. The beets are then carefully piled on the field and covered. When great quantities are grown the crop is preserved as follows: Ditches are dug from 2 to 6 feet wide, according to requirements, about 100 feet long and generally about 2 feet deep, into which the beets are piled until they are about 2 feet above ground. Sometimes the beets are heaped up on the unprepared ground. In both cases they are covered with straw and then banked up with earth. That the temperature in the beet pits should not be too warm, suitable openings are made and wooden or straw ventilators introduced.

The harvest of beets varies greatly in different years, according to locality, climatic conditions, and methods of cultivation. The crops are best in the southwestern governments of European Russia, notably those of Kharkov, Bessarabia, and Poland. In the Polish plantations, for example, an acre yields, on the average, something over 6, and on some of the plantations as high as 14, English tons of beet roots. The crop is more uniform in Poland than elsewhere, on account of the better methods of cultivation.

The following table has been carefully prepared from data furnished by the imperial ministry of agriculture, the number of berkovets per dessiatine given in the official statistics having been converted into pounds per acre, to show the fluctuating harvests in the different governments from 1888 to 1892:

Beets harvested per acre.

Governments.	1888	1889.	1890.	1891.	1892.	Average.	Minimum.	Maximum.
	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Ekaterinoslav.....	18,016	3,490	4,925	.....	.....	8,810	3,490	18,016
Samara.....	11,868	12,556	5,985	7,572	6,010	8,798	5,985	12,556
Orel.....	9,750	9,466	8,000	5,866	6,392	7,894	5,866	9,750
Chernigov.....	12,004	4,233	13,088	11,190	9,968	10,097	4,233	13,088
Voronezh.....	16,333	8,100	12,504	5,017	7,998	9,990	5,017	16,333
Tula.....	13,110	13,352	10,618	5,776	4,098	9,390	4,098	13,352
Tambov.....	14,657	10,721	10,966	8,046	11,152	11,097	8,046	14,657
Poltava.....	14,333	13,394	11,670	10,126	11,334	12,172	10,126	14,334
Koursk.....	15,356	14,933	12,994	10,400	11,004	12,937	10,400	15,356
Volyn.....	13,318	14,341	15,437	13,016	12,622	13,746	12,622	15,437
Podolsk.....	15,513	14,438	14,320	12,886	10,362	13,504	10,362	15,513
Kiev.....	15,368	14,510	15,837	14,073	10,056	13,969	10,056	15,837
Kharkov.....	19,828	18,577	12,916	13,953	12,508	15,556	12,508	19,828
Bessarabia.....	20,658	17,456	19,360	14,026	14,418	17,184	14,026	20,658
Chernozom:								
Average.....	15,008	12,112	12,040	10,150	9,840	11,796	8,345	15,337
Minimum.....	9,750	3,490	4,925	5,017	4,098	7,894	3,490	9,750
Maximum.....	20,658	18,577	19,360	14,073	14,418	17,184	14,026	20,658
Plotsk.....	10,678	11,856	16,506	13,156	12,962	13,032	12,962	16,506
Sedlets.....	9,669	14,742	16,413	13,530	13,294	13,530	9,669	16,413
Warsaw.....	13,204	13,597	16,321	13,065	12,916	13,821	12,916	16,321
Petrokov.....	13,820	14,306	18,533	11,460	11,025	13,829	11,025	18,533
Kalish.....	14,998	14,800	17,644	12,010	14,720	14,832	12,010	17,644
Kelets.....	13,414	13,600	17,108	11,802	15,365	14,258	11,802	17,108
Lomza.....	15,392	14,516	19,922	12,964	16,097	15,778	12,964	19,922
Lublin.....	14,745	17,434	19,080	13,590	14,956	15,961	13,590	19,080
Radom.....	17,573	17,814	20,493	14,908	15,237	17,205	14,908	20,493
Vistula:								
Average.....	13,713	14,741	18,002	12,942	14,064	14,693	12,428	18,002
Minimum.....	9,669	11,856	16,321	11,460	11,025	13,032	9,669	16,321
Maximum.....	17,573	17,814	20,493	14,908	16,097	17,205	14,908	20,493

SUGAR QUALITIES OF BEETS.

Dependent upon conditions of soil, the sugar qualities of beets vary greatly in different localities and seasons.

The following table will show the percentage of saccharine matter grouped in the Polish, southwestern, and other governments :

Governments.	1886.	1887.	1888.	1889.	1890.	Average.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
Vistula.....	14.38	14.16	14.45	14.94	14.81	14.55
Southwestern.....	12.88	13.1	14.4	12.4	13.49	13.25
Other.....	13.13	12.35	13.66	12.34	13.63	13.02

COSTS AND PROFITS OF BEET CULTURE.

The cost of cultivation is considerable, as beets require during their entire growth very much attention. The imperial ministry of agriculture has furnished data showing the expense of growing this crop in the governments of Kiev, Podolsk, Volyn, Kharkov, and Kursk. In general it may be averaged at about \$18 per acre, falling in some localities to \$12 and in others rising to \$27. Varying with the harvest, it costs the planter 10 to 20 cents per cwt.

The following table has been prepared to show the cost and profit of beet cultivation in the important districts of the governments of Kiev, Podolsk, Volyn, Kursk, and Kharkov :

Governments.	Harvest per acre.	All expenses, rent included.	Cost of culture per cwt.	Selling price per cwt.	Harvest price per acre.	Profit per acre.
	<i>Cwts.</i>					
	186	\$23.60	\$1.47	\$1.95	\$31.72	\$8.14
	93	14.60	1.79	2.01	16.20	1.58
Kiev.....	96	17.20	2.08	1.60	13.33	*3.90
	174	16.90	1.22	1.60	24.11	7.26
	130	19.20	1.66	2.08	24.07	4.78
		28.10			20.14	5.09
Podolsk.....	160	16.10	1.15	1.60	22.22	6.05
Volyn.....	120	17.10	1.53	1.60	16.66	.40
Koursk.....	270	27.39	1.15	1.60	37.59	10.21
	173	27.40	1.82	2.30	34.91	7.41
	255	30.20	1.37	1.66	36.90	6.72
Kharkov.....	203	24.80	1.40	1.66	29.41	4.47
	186	28.10	1.76	1.98	32.29	4.52

* Loss.

It is interesting to note that the cultivation of beets in Russia has had a very beneficial effect upon agriculture in general throughout the Empire by introducing improved types of machinery and farming implements, not only upon estates, but on peasant farms as well.

ACREAGE AND CROP YIELD.

Before passing to the manufacture of beet sugar, it may not be out of place to give some of the more important official data on the total area of the beet crop in Russia, the yield of the crop, the number of factories in operation, the amount of beets consumed by them, and the estimated quantity of sugar produced, as well as the average yield thereof for the past ten years, this period covering the industry in Russia since the Government imposed a system of excise upon it.

Beet acreage, crop, and product.

Year.	Land under beets.	Total beet crop.	Product per acre.
	<i>Acres.</i>	<i>Cwts.</i>	<i>Cwts.</i>
1881.....	608,456	70,601,891	114.3
1882.....	632,958	94,625,699	117.2
1883.....	745,553	70,988,656	95.1
1884.....	787,671	77,986,448	101.5
1885.....	808,849	109,082,147	134.8
1886.....	731,335	92,495,478	126.4
1887.....	623,872	84,135,849	134.8
1888.....	663,584	91,193,168	136.2
1889.....	668,630	86,162,473	128.8
1890.....	753,840	97,735,107	129.6
1891.....	759,078	85,145,961	112.2

Beet factories.

Years.	Number of factories.	Quantity of beets used.	Sugar produced.	Yield of sugar per cwt. of beets.
		<i>Cwts.</i>	<i>Cwts.</i>	<i>Per cent.</i>
1881-'82.....	235	68,895,888	5,009,748	7.43
1882-'83.....	237	73,271,008	5,512,124	7.67
1883-'84.....	244	70,876,800	6,003,116	8.6
1884-'85.....	245	78,819,961	6,706,598	8.58
1885-'86.....	241	107,743,916	9,292,670	8.58
1886-'87.....	229	91,950,844	8,303,881	9.13
1887-'88.....	218	83,418,940	7,599,688	9.12
1888-'89.....	220	89,749,846	9,085,864	10.02
1889-'90.....	220	85,450,323	8,194,039	9.16
1890-'91.....	223	96,638,857	9,112,137	9.73

In the amount of production and in the value of the output of the factories the beet-sugar industry is one of the most important in Russia. The annual product of raw sugar alone, calculated from data covering the last five years, amounts to 955,000,000 pounds, valued at about \$60,000,000—the output in 1892 of 226 factories amounting to 477,613 tons of sugar. As regards the quantity of sugar manufactured annually Russia ranks fourth among European countries, and in technical quality shows as high development as Germany, France, Austria, or Belgium. In fact, the raw sugar produced by the Russian factories, differing in quality very little from re-

finéd sugar, surpasses the raw product of foreign manufacturers. For convenience of tabulation and statistics, European Russia has been divided into sugar districts: (1) The southwestern, comprising the governments of Bes-sarabia, Kiev, Podolsk, and Volyn, and including 52 per cent of the total number of sugar factories; (2) the central, including the governments of Voronezh, Ekaterinoslav, Kursk, Orel, Poltava, Samara, Tambov, Tula, Kharkov, and Chernigov, with 29 per cent of the total number of sugar factories; (3) the Polish district, including the governments of Warsaw, Sed-lets, Kalish, Petrokov, Lublin, Kelets, Radom, Lomzha, and Plotsk, with 18 per cent of the total number of sugar factories. Outside of these three districts there is but one factory, that in eastern Siberia, in the government of Enisseisk, which began operations in 1889.

The distribution of the 232 beet-sugar factories and refineries at work in 1890 and 1891, according to the regions as above mentioned, the area under beet crop, and the quantity worked up into sugar may be seen from the following table:

Regions.	Manufactories.			Land under beets.		
	Sugar fac-tories.	Refine-ries.	Total.	Manufac-to-ries.	Planters.	Total.
				<i>Acres.</i>	<i>Acres.</i>	<i>Acres.</i>
Southwestern.....	110	7	117	150,017.6	266,649.8	416,667.4
Central.....	61	4	65	153,662.6	86,060.8	239,723.4
Polish.....	16	24	40	4,901.8	92,503.5	97,405.3
Eastern Siberia.....	1	.....	1	43.2	.....	43.2
Total.....	188	35	223	308,625.2	445,214.1	753,839.3
For 1889-'90.....	186	35	221	287,287.5	381,342.6	668,630.1
Increase.....	2	.....	2	21,337.7	63,871.5	85,209.2

Regions.	Beets.	
	Received at manufactories.	Manufactured.
	<i>Cwts.</i>	<i>Cwts.</i>
Southwestern.....	56,504,909.7	56,349,513.6
Central.....	26,499,496.9	25,860,674.2
Polish.....	14,725,374	14,423,965.4
Eastern Siberia.....	5,328	2,704
Total.....	97,735,108.6	96,636,857.2
For 1889-'90.....	86,162,474.5	85,450,322.2
Increase.....	11,572,634.1	11,186,535

Beet-sugar production in 1890-91.

Regions.	Average quality of beet sirup tested by polarization.			Estimated sugar.	Refined sirup.	Yield of beets.	
	Sugar	Non-sugar.	Quality.			White sugar.	Molasses.
	<i>Per ct.</i>	<i>Per ct.</i>	<i>Per ct.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Per ct.</i>	<i>Per ct.</i>
Southwestern	13.49	3.19	80.85	257,068.4	86.53	9.46	4.31
Central	13.63	3.64	78.94	122,121.1	56.89	9.47	4.24
Polish	14.81	2.57	85.2	79,833.3	0.48	11.28	2.12
Total, European Russia	13.72	3.22	80.99	459,022.8	143.9	9.73	3.96
Total, European Russia, 1889-'90 ..	12.68	3.06	80.56	396,655	129.82	9.16	3.24
Eastern Siberia	12.3	3.05	80.13	1.1	.....	1.92	4.08

From the foregoing data it appears that the total area under beets in 1890 was 753,840 acres, or 85,210 acres more than in the preceding year (1889). It also appears that the plantations connected with the sugar factories amounted to 41 per cent of the total area under this crop, leaving 59 per cent for private growers.

The yield of white sugar in the eighties was only about 8 per cent, while now, owing to improved methods of cultivation and manufacture, the yield is as high as 10 per cent.

SUGAR MANUFACTURE.

It may not be superfluous to refer to the methods of separating the juice from the solid, of purifying, evaporating, and concentrating the juice, as also the methods of treating the molasses.

At the present time very few factories are using the former centrifugal machines or presses, the diffusion process being almost universal. In 1890 and 1891, for example, there were 215 sugar factories with 2,792 diffusion vats of different capacities, averaging about 444 gallons per vat. The purification of the juice by diffusion or pressure from the pulp and parings previous to their subjection to straining or saturation is now performed almost universally by filtration. Some works, however, purify the juice chemically with the aid of sulphurous acid, instead of the more general means of saturation with the carbonic acid. The mechanical filtration of beet juice purified by saturation is also becoming more frequent, thus making a great saving in bone black, which in many factories is now only used for purifying the sirups. One of the most important improvements made in the methods of evaporating beet juice in boilers with exhausted air consists in the enlarging of the heating surface of the apparatus by converting them from double-acting into triple, quadruple, and quintuple acting apparatus, with the view of economizing fuel. In 1890, for example, there were 352 evaporating apparatus distributed among 220 sugar factories, with a total heating surface of 1,327,246 square feet.

With reference to the boiling down of the sirup and residues, the most recent improvements consist of concentrating apparatus with larger capacity and more heating surface, with an attachment for boiling the sugar residues with the steam of the evaporating machines; and in the treatment and decoloration of the residues new centrifugal cylinders with greater capacity and special arrangements for reducing the loss of sugar, devices for raking the sugar through the bottom of the centrifugal cylinders and of automatically carrying it to the drying ovens.

It may be added, also, that steam power and electric lighting are becoming more and more general in this class of manufacture. The fuel used in Russia consists of wood, coal, lignite, naphtha residues, and peat, according to locality.

One of the most valuable by-products in the manufacture of beet sugar is treacle, which, in the early days of this industry, was a positive burden to the manufacturer. Later it was used as a fertilizer and to some extent as food for cattle. Now, however, the works are able to extract about 50 per cent of crystalline sugar from this mass. It is also used to a large extent in the manufacture of spirits. For extracting sugar from treacle various processes are in use, such as osmosis, elutriation, and the strontium method, all of which meet with success either in the factories or at specially constructed works.

In 1891 there were seventeen special sugar refineries at work in the Empire, treating raw sugar made at other factories. The distribution of these refineries and their respective output, according to governments, are set forth in the following table:

Governments.	1889-'90.		1890-'91.	
	Number of works.	Yield.	Number of works.	Yield.
		<i>Cwts.</i>		<i>Cwts.</i>
Kiev	4	1,088,111.3	4	1,149,155.8
Moscow.....	4	733,335.6	4	775,721.2
Kherson.....	1	730,240.9	1	652,765.7
Kharkov.....	2	598,301.1	2	512,441.9
Chernigov.....	2	454,233.9	2	486,533.4
St. Petersburg.....	2	373,328.6	2	373,102.7
Tula.....	1	282,980.4	1	276,058.5
Pskov.....	1	220,607	1	223,720.7
Total.....	27	4,481,138.8	27	4,449,489.9

LABOR IN SUGAR WORKS.

The following table has been prepared to show the number of men, women, and children engaged in the sugar industry in 1891 in Russia:

Laborers in beet-sugar works.

Governments.	Number of works.	Number of laborers.				Average number per factory.
		Men.	Women.	Children.	Total.	
Southwestern.....	117	40,483	4,055	287	44,825	383
Central.....	65	21,604	2,781	218	24,603	378
Polish.....	40	14,203	2,946	26	17,175	428
Eastern Siberian.....	1	40	30	8	78	78
Total.....	223	76,330	9,812	539	86,681	388

Monthly wages of laborers.

Governments.	Men.	Women.	Children.
Southwestern.....	\$2.50 to \$5.50	\$1.50 to \$4.00	.....
Central.....	2.50 to 8.00	1.50 to 5.50	\$2.50 to \$4.50
Eastern Siberian.....	6.50	5.00	2.60

EXPORTS.

Exportation of Russian sugar.

Year.	Raw sugar.	Refined sugar.	Total.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
1885.....	66,000	3,000	69,000
1886.....	54,000	7,000	61,000
1887.....	61,000	12,000	73,000
1888.....	73,000	17,000	90,000
1889.....	54,000	19,000	73,000
1890.....	38,000	15,000	53,000
1891.....	102,000	20,000	122,000

Three-fourths of the sugar exports go across the European frontier, the other fourth passing through the Asiatic custom-house.

GOVERNMENT REVENUE FROM SUGAR.

It may be interesting, in concluding this report, to show the amount of Government revenue from the sugar industry in the form of excise, license, and other taxes.

Government revenue from sugar.

Year.	Excise.	License and other taxes.	Total.
1882.....	\$3,981, 129	\$46, 394	\$4, 027, 523
1883.....	4, 391, 589	47, 523	4, 439, 112
1884.....	6, 126, 476	71, 405	6, 197, 881
1885.....	6, 838, 086	93, 210	6, 931, 296
1886.....	7, 431, 438	498, 151	7, 929, 589
1887.....	11, 418, 218	1, 286, 853	12, 705, 071
1888.....	8, 446, 255	1, 274, 102	9, 720, 357
1889.....	8, 890, 709	762, 158	9, 652, 867
1890.....	10, 731, 695	87, 957	10, 819, 652
1891.....	10, 330, 045	98, 675	10, 428, 720

Under the new internal-revenue regulations of September 1, 1892, covering the sugar factories, it is estimated that the excise revenue alone will bring in annually \$3,800,000. Moreover, the sugar refineries pay a special license of \$2.50 per 36,000 pounds of sugar refined, which will bring a total annual revenue of about \$4,000,000 to the Government treasury.

J. M. CRAWFORD,

Consul-General.

ST. PETERSBURG, *September 15, 1893.*

THE COLLIERY STRIKE IN GREAT BRITAIN.

For ten weeks Great Britain has experienced the direful results of a conflict between capital and labor. Between 350,000 and 400,000 laborers in the coal mines operated in the colliery districts of the United Kingdom have been on a strike against a reduction in wages. In the number engaged, in the interests involved, and in its far-reaching and terrible consequences it is said to be the most colossal movement this country has ever experienced.

In the whole of Great Britain there are probably 500,000 working coal miners. The restriction of the output and the succeeding effect upon owners, consumers, manufacturers, all branches of industry, and upon the laborers themselves when three-fourths of the production suddenly ceased and continued suspended for many weeks can easily be imagined. The approach of winter but adds to the seriousness of the situation.

THE CAUSE.

Early in July the owners, lessees, or operators of coal mines or pits in Yorkshire, Lancashire, and other great coal-producing counties of England gave notice to the miners that after the 28th of July they would reduce wages. The wording of the notice was such that the proprietors, the laborers, and the public have never since been able to agree as to its exact meaning.

It appears that in the year 1888, the average wages of the miners having decreased to such an extent that a crisis was then approaching, the question

of wages was left to a disinterested party, who found that many colliers were receiving wages upon which it was impossible to live. Considering that many could secure work but two or three days per week, the average wage per man was something less than \$5 per week. It was declared that this was the lowest sum upon which it was possible for a collier to exist and support himself and family. Some assert that this decision, backed by public sentiment, compelled a more liberal policy, and wages were after that time raised on several occasions, until a total advance of 40 per cent was voluntarily made to the miners by the owners. The latter now assert that it was simply their natural inclination to divide profits with their laborers, and that better times, good prices for coal, and brisk demand enabled them to make this advance. The owners assert that as long as this state of affairs continued they were willing and even glad to pay the wages on the basis of 1888, with the 40 per cent increase, but that a large proportion of miners in Northumberland and Durham having agreed to a reduction of $17\frac{1}{2}$ per cent, and the South Wales laborers having a sliding scale agreement, based on prices of coal, with their owners, other owners could not compete with them at a profit. Their contracts, they argued, were being taken away from them and bids made to supply coal in great quantities by the owners working under the reduced wage system that would absolutely compel a loss of 12 cents and upwards per ton to Yorkshire or Lancashire owners in order to meet competitors on even ground. The majority of the owners gave testimony that, though they have experimented at working the mines for six days down to one day per week in an endeavor to regulate the output and stimulate the demand, the effort proved utterly futile and they were compelled to ask the men to submit to a reduction of $17\frac{1}{2}$ per cent upon the whole wages, or 25 per cent on the basis of 1888. Their claim, as set forth by several spokesmen and leaders, is that the exact amount of the proposed reduction is \$1.25 per week on the supposition that the standard of 1888 guaranteed \$7 per week. In other words, on the owners' and employers' showing in this respect the wages of the miner would be reduced from \$7 to \$5.75 per week, the ratio holding good were he making more or less. Another view, based on the statement of magistrates speaking for owners, was that the reduction is only upon the 40 per cent advance and in reality reduces the total wages but 50 cents per week, agreeing upon \$7 as a basis.

In some cases there are radical differences from this view, as will be seen in the appended official statement from an owner whose works were burned in the riot—Mr. A. J. Holliday, of the Acton Hall Colliery. He says:

Between 1888 and the end of 1890 the men received six advances, four of them of 5 per cent and two of 10 per cent, making 40 per cent in all. Each of these was calculated upon the standard basis, and everyone that had any connection with a colliery knew that the reduction was intended to be 25 per cent from the standard, and not from that standard plus 40 per cent. And yet as recently as last Saturday Mr. ——— had the temerity to repeat the stale misstatement that the masters wanted to deduct one-fourth from the wages the men were recently earning. For the last twenty weeks during which this pit was working previous to the present stoppage the colliers' earnings averaged \$1.66 per shift of eight hours. This

was the average of all the men employed, and, of course, many of the better and more industrious men earned much more. With the 25 per cent off this would be reduced to \$1.36 per day, and this is surely not a bad average for good workers and bad all round. Another delusion carefully fostered by many who profess to speak in the miners' interests is to the effect that the owners only pay about 48 cents per ton in wages (some put it lower) and sell the coal at \$1.94 and \$2.67 per ton, leaving an enormous margin for profit. The first fallacy in statements of this sort lies in the fact that only the getting price of coal is spoken of, whereas a large amount of underground wages has to be paid besides the coal-getters', not to speak of surface wages. At this colliery the price list for coal-getting is 38 cents per ton, which, with the 40 per cent added, makes 53 cents; but our underground wages, exclusive of all road-making and new work, come to 85 cents per ton. Another serious matter, however, is habitually ignored in considering this question. This 85 cents per ton is paid on all that comes up from below, but when the contents of the tubs have passed over the screens and picking bands the weight of coal for the market has seriously diminished.

He gives details of a day's working, which shows an average of \$1.56 per ton on the total weight. He proceeds:

I will not go into figures as to top wages; consumption of timber, pit rails, and other stores; depreciation, sinking fund to cover the gradual extinction of all the capital sunk in the shafts and their equipment, travelers, clerks, surface rents, etc., as my purpose is more particularly to throw light upon the colliers' wages question. I might say, however, that all the fierce language uttered against royalty owners is pure nonsense. The royalties in this district vary from 8 to 12 cents per ton, which in the case of all owners who have purchased within recent years yields a bare interest on capital.

He concludes by asking if anything could be more unreasonable than to grudge the owners the opportunity of getting back a small portion of the cost of "smudge." When coal is scarce this smudge acquires a small value, and the men who have been paid for it at the full rate for good coal are instructed by their leaders not to allow any of it to be loaded into trucks.

In reply to the foregoing, it was stated that Mr. Holliday did not show how many days per week his men worked—whether it was two, three, or four—and he was challenged to show that his men drew on an average over \$5 per week. It is to be presumed that the employers and employes know very well the exact difference in pounds, shillings, and pence between them, and that each give figures to the public accurate enough from the standpoint from which it is figured in order to gain the support of the people.

THE MEN'S SIDE.

The first statement of the miners, on the authority of Mr. Benjamin Pickard, a member of Parliament, and president of the Midland Miners' Federation, was to the effect that the demand was not for a simple reduction of 25 per cent on the total wages of the 1888 basis, but a 25 per cent reduction of that wage plus all the 40 per cent of the advance since that time, thus making a real reduction of 35 per cent of the advance, leaving the miners only 5 per cent above the scale of 1888, which Judge Ellison, as an arbitrator, declared was 10 to 15 per cent lower than a miner could possibly live upon. In other words, Mr. Pickard, as the workmen's leader and representative, asserted that since 1888 there had been an advance of \$2 per

week, on an average, in the miners' wages, and it was proposed to take away \$1.75 of this, making a total reduction of 35 per cent figuring it in that manner. It will thus be seen that between the official and authoritative statements of both sides there is 50 cents difference as to the amount of cut in average wages, the owner fixing the cut at \$1.25 per week, the miner at \$1.75 per week.

To the public and to history it will stand simply as an attempted reduction of 25 per cent in the wages of the miners, which was stubbornly and desperately fought, with as desperate results. The men claim, also, that while there was an agreement between the owners and themselves to work on a sliding scale based on the wage of 1888 and to fluctuate up and down with the price of coal, that the low prices of which the masters complain and on which they attempt to reduce wages are the result of reckless, ruinous, and destructive competition, in which the elements of good sense and business judgment do not enter. They state that the masters, by their own folly, reduced the price of coal, and, finding themselves unable to fill their great contracts at a profit, seek to make labor bear the entire burden. They also point to the fact that this alleged "cutthroat" competition was to gain the patronage of railroad and gas companies and other concerns which pay handsome dividends, but which in turn do not give the public the benefit of reduced prices of fuel in reduced rates. Thus, they argue, the miner has his wages decreased beyond a point on which he can comfortably live, not to benefit the ordinary consumer, but to enable the capitalist owning shares in great monopolies to reap rich dividends at the toilers' expense. To the statement of the owners that the old wages would mean fewer days of work, they unanimously reply that they prefer two or three days' work per week at fair pay to four or five days at the reduced rate.

One ex-miner—Mr. Tom Mann—now prominent as a leader of organized labor, makes the broad assertion that the average of the miners' wages per day under the present scale is from \$3 to \$4 per week. This is figured on the ground of deductions, such as charges for sharpening picks, powder, lights, the miner paying the drawer, etc. He also asserts that the miner is allowed to earn these sums on an average of only two and three-fourths days per week in Yorkshire and not more than three or four days elsewhere. This leader argues that the deplorable condition of the miner is due to the overcrowding of the mines by agricultural laborers, who desert the fields for the mines with the expectation of better pay. Therefore, he preaches reform in the land question.

FROM THE STANDPOINT OF THE PEOPLE.

Individuals look upon the struggle from the standpoint of self interest, from environment, personal relations to owners or men, and natural prejudice or sympathy. The disinterested public at large at the beginning were, however, inclined by a great majority to believe that the strike would be of short duration; that the price of coal was low, and, the yards, banks, pits,

and receptacles of owners and dealers being glutted, that there was overproduction and no market, this condition being largely owing to the extremely and unusually long, warm, dry season not favorable to the consumption of all grades of fuel. They thought that the owners secretly encouraged a strike and the total stoppage of work, to the end that prices might be artificially raised, the immense accumulation on hand be disposed of at a handsome profit, and work then resumed with clean shelves, so to speak. The nonchalant attitude of the men seemingly encouraged this belief. They talked of taking a fortnight holiday, spurned a suggestion on the part of the operators for arbitration, and on a given day quit work in the quietest and most orderly manner possible. The fact that the owners did not seem to care to arrive at any compromise looking to a reduction less than 25 per cent also seemed to indicate that they did not seriously object to a stoppage. At the initiation of the war it was therefore the general opinion that there would be a brief stoppage, which would insure the consumption of the visible supply of coal, increase the price, and result in the end to the benefit of both owner and workman, leaving the public only to suffer and pay the expense.

When the war had extended a month it was seen that, however correct these ideas might have been at the outset, they were no longer sound. The different statements made to the public by masters and men, the criminations and recriminations, the agitation in the press, the disputation, the public meetings, and the many contradictions fast brought about a feeling of such bitterness and animosity that conciliation and compromise seemed impossible. It was total capitulation either on one side or the other. It was this condition of things that brought a great element of the country to the verge of revolution—in fact, in some instances to actual defiance of law and order.

HOW THE STRIKE IS CONDUCTED.

The policy of the strike has been outlined and carried into effect by men of ability, great energy, and capacity, all themselves recruited from the ranks of labor. Several of them are members of Parliament and seemingly enjoy the absolute confidence of the men. A part of the community charge that their agitation, their advice to the men not to yield one iota or make a single concession, has largely been responsible for the suffering, deprivation, and bloodshed that has been experienced. This is one view of the question. Another is that they are patriotically assisting labor in its demand for a just reward, and that they could not be engaged in a nobler cause.

This report does not pretend to say which is right, but aims to give information. The question naturally arises, how were the men to subsist during a prolonged and unequal struggle between capital and labor?

It was agreed that on August 1, when the strike practically began, each workman was in condition to subsist two weeks. Then they were to receive help from the organizations, the federations, associations, unions, lodges, etc. For this purpose there was a fund which had been growing for some

time derived from dues paid by members. It was estimated by the leaders that they were equipped for a ninety-day struggle. In Yorkshire 87,000 miners had \$800,000 to go on. In Derbyshire their resources were \$188,000; Nottingham, \$200,000; and in Lancashire, with about the same number of men as Yorkshire, \$800,000. Thus in these mining centers, exclusive of the smaller and fragmentary sections involved in the strike, the workmen had a fund of over \$2,000,000 to sustain them while idle. This money was divided, a certain amount to each lodge or union according to its numbers. Each workman was paid \$2.25 per week and 25 cents in addition (if a married man with children) for each child. A man with six children would therefore have \$3.75 to supply himself, wife, and six children with the necessities of life for one week. This was better than in the strike of 1885, when each union man had 62½ cents per week and each nonunion man 37½ cents per week to live on and stood out nine weeks. Under the present arrangement, therefore, it has required \$100,000 per week to pay the Yorkshire miners (which includes those in this consular district) their stipend, and it has been regularly distributed.

At the outbreak of the trouble a number of colliery-owners were willing to continue the old rate of wages, but the federation decided that, in order to advance the cause of the whole and put all on equality, all should go out. Now, the immense sum of money to defray the miners' expenses while idle is almost consumed, contributions are being asked, and an offer on the part of the owners to meet and talk over the situation has been rejected by the workmen's representatives if it looks to any reduction whatever. It has been decided by a popular vote of the workmen that those who can now resume work at the old rate of wages, that is, on the basis of 1888 with 40 per cent advance, may do so, each man to contribute in that event 25 cents per day of his earnings to the support of his brothers not able to do so. Thus those who return help to maintain by their own earnings the backbone of the strike. It is not known at this writing how many will be able to avail themselves of this opportunity; but many profess to see in it the beginning of the end and assert that, now there is no coal and prices are higher, the owners will allow the old wage and gradually resume production. It is claimed by the men that, though out of funds, they can remain idle eight weeks longer.

THE EFFECT.

Here are some of the results of the conflict: Trade is stagnant; internal and international commerce has been seriously injured; numerous industries have been crippled. The iron trade has been injuriously affected; manufacturers have been working on one-half, one-fourth, and one-sixth time, and many have closed down entirely for lack of fuel to supply power. In Bradford alone one establishment has suspended 2,000 hands until coal is again to be had. Hundreds of others have been affected in a similar way, thus entailing hardship upon thousands and thousands and leaving others utterly destitute.

Coal, which brought from \$2 to \$4 per ton, according to grade and use, advanced 50 cents per ton at once and has continued to advance until now the highest grade of coal is commanding in London in some instances as high as \$12 and \$15 per ton, and the lower grades in corresponding ratios. Seven and one-half dollars per ton is a common price, and those having the money to pay are glad to get it at that rate.

Many manufactories are running on smudge and dust—the refuse that was formerly dumped any place where it would be out of the way.

Men, women, and children are in places digging coal on commons and selling it by the package or pail to get a few pennies with which to buy food.

Subscriptions are being received by newspapers for the destitute, and on every block are to be met those soliciting help for the needy.

The gatherings of the desperate, hungry, and unemployed have resulted in some instances in violence, rioting, lawbreaking, the destruction of property, and actual bloodshed. First the constabulary, then the metropolitan police, and then the military, as a last resort, have been called into requisition to quell disorders, disperse mobs, and protect life and property. The most notable instance was at Lord Masham's pits, at Acton, where the property was set on fire, entailing a great loss, where the riot act was read, and where the military fired upon the rioters, killing some and wounding others. Lord Masham has since declared that not his own striking workmen, but strangers, were guilty of the assault on his property, the damage of which must be paid by taxpayers. In this connection the Government has been severely criticised by some for permitting the military to be called into service, but the home secretary has replied that it has not been used save as a last resort, when the local authorities were unable longer to cope with violence and called for help to protect life and property, and that the policy of the Government was against the use of military save in such cases. Even schools have been affected, and in some places the hungry children of the poor have been attracted to the school during the pending troubles by the inducement of one meal per day at the school.

The railroads have felt the scarcity of fuel intensely, and as a result they have dispensed with thirty, forty, fifty, seventy-five, and, in one instance, one hundred passenger trains per day. The hundreds of customary summer and autumn excursions have been abandoned. One railroad—the London and Northwestern—has experimented with oil as a fuel and has changed seventy-five, and will soon change others, of its engines to a plan by which oil can be used instead of coal, and makes the announcement that it will make oil its permanent fuel. Large manufactories are also experimenting with oil with a view to its permanent use. Thus the great consumers who are charged with bringing about the crisis by forcing low prices are themselves in the end the heaviest losers financially.

Coal from the Continent is bringing a fancy price in the London harbor, and many ocean vessels are using American fuel, some of which has also been imported.

In many places soup kitchens and other facilities for the distribution of food to the poor have been successfully adopted.

Many poor miners are serving sentences in jail on the charge of rioting and disorder.

The whole catalogue of woes which a nation can suffer has followed as a direct consequence of this strike, and the poor—not only those engaged in it, but the thousands affected by it through other channels—have run the gauntlet of ills, including famine, disease, and death. This picture may seem overdrawn to the reader, but recourse to the files of the daily newspapers and the illustrated periodicals of the last sixty days containing appeals for help for the starving and portraits of scenes of riot and violence will furnish startling testimony of its correctness.

HOW THE COLLIERS LIVE.

A brief description of the manner in which the miners live may be useful in this connection. There are exceptions to every rule, and in some cases those who profited by the golden era of the miners in Yorkshire, when they made \$15, \$20, and sometimes as high as \$25 per week, preempted a house and a little land and now enjoy these, together with a cow, a pig or two, their own poultry, and a garden plot on which their vegetables are raised, and who have grown-up sons and daughters adding to the family revenue, live in comfort and, indeed, enjoy a certain extent of luxury. But they are the exceptions. As a rule, colliery villages are owned by the proprietors of a pit, and each house or shanty, as it is termed, is rented to the miner at a certain sum (usually from 40 cents to \$1 per week), and on pay day the amount of rental is deducted from the wages.

A reliable and unprejudiced man visited a great number of these villages before the strike now in operation was declared and when there was no feeling and no prejudice. His report showed that more than two-thirds of the miners lived in places not fit for human beings to inhabit. The North American Indian, the Arab on the desert, the Esquimaux, or any other species of the human race living under primitive conditions enjoys unexampled luxury compared with these products of a nineteenth-century civilization. Many of the buildings in dozens of these towns were old, cheap, and rickety. One or two rooms sufficed for families of six to twelve persons. Often heroic efforts would be made to brighten up the desolation of these places by a pot or two of flowers in the window, a cheap fancy curtain or two, or some other little gewgaw of the housewife; but the rain beating in through the sides or roof and other unfailing appearances could not hide their entire unfitness for human habitation. Almost without exception the sanitation was found to be miserable. From two to eight families used one privy, the contents of which would either lie as it was or be carried away at intervals. There was no sewerage. Open drains carried away the slops of the household, exuding a dreadful odor, and an occasional ashpit used by many families contributed its quota to the disease-impregnated atmosphere. The

water supply was oftentimes of doubtful origin, obtained either from wells fed by surface drainage or from springs welling from hillsides, in many instances polluted by drainage. This seemed the general rule, though there were instances where there were good shelter, excellent sanitary arrangements, and all the usual comforts. These conditions do not apply to Yorkshire miners so much as to others.

THE CURE.

Naturally, commerce and transportation and allied interests do not feel safe so long as all systems are subject to sudden shock and almost entire demolition by such conflicts as have been described in the foregoing. They are ruinous to the mercantile classes, to the manufacturing industries, and productive of general depression and monetary stringency. The entire population unite in saying that something must be done to prevent the recurrence of like disasters in any branch of industry upon which the well-being of all classes depends. But how are they to be avoided? The popular cry seems to be arbitration—compulsory arbitration—state arbitration. To this end many plans are suggested. The example of several of the States in the United States of America is mentioned and approved. Several bills have been introduced into Parliament to this end, and more are in course of preparation. It is almost certain that the coming session will witness some legislation on the subject, compelled by awakening public sentiment. Political economists draw many lessons from the trouble, and theorists endeavor to prove or disprove long-asserted doctrines.

Among other propositions is one that the State should control and work coal mines, as it does the post-office and telegraphs; but it is pointed out that this would also lead eventually to Government control of railroads, and that strikes occur in the post-office and telegraph service and in gas companies controlled by municipalities. In this connection the example of the United States is again quoted and the suggestion made that a body similar to the Interstate Commerce Commission should control and regulate. To all these propositions and, indeed, to any others that portend governmental interference or control the *laissez faire* enter a decided and earnest protest.

Another proposition is that the National Board of Trade should have the subject in charge, and at a recent meeting of delegates from the various city boards this proposition was seriously advanced.

Meanwhile the mayors of large cities seriously affected, as Bradford, Leeds, Sheffield, Nottingham, Birmingham, etc., have agreed to meet to see whether they can not formulate a plan to submit to contending parties.

Perhaps the most novel plan has been advanced by Sir George Elliott, a capitalist and mine-owner, himself a graduate of the pit. It is the formation of a gigantic coal trust, combining all the coal properties in England, with a capital of \$600,000,000. This gentleman has sent two thousand letters to colliery proprietors making this proposition. In these letters he asserts that the object is not to create a monopoly for the benefit of the colliery

proprietors, but to form a combination which, he believes, will be equally advantageous to the coal-owners, colliery proprietors, workmen, the purchasers, and consumers of all classes, and therefore permanently beneficial to the nation at large. It is proposed in this scheme that the workmen shall have, in addition to their wages, a share of the profits after the payment of the interest on debenture stock and 10 per cent on the ordinary stock. To prevent an undue increase in the price to the consumer, the author of the project proposes an independent board of referees to be nominated by the lord chief justice of England. The amount of capital is almost equaled by two English railway companies. The proposal of a trust or combine as "a blessing to the workingman," while not entirely new, even in America, has never before, I believe, been made in solemn earnest during a crisis such as the present. It will be interesting to know what answer the two thousand owners make to this proposal. Meanwhile the moral philosophers demand to know what right any men or any set of men, having titles to a portion of the surface of the earth, have to lay claim to the minerals God has placed in the earth for the use of all.

The workmen also propose as a remedy that the owners and laborers enter into an agreement to keep up the price of coal to a fair profit to both employer and employé, and when an owner breaks this compact to at once and summarily close down his mine and allow no men to work it. Here is the idea of a trust or combine in another form.

THE LESSON.

These facts are contributed by the writer (situated in the heart of a district enduring the hardships described) with the hope that similar calamities may be avoided in the future in the United States, and that the lesson of this struggle may not be lost upon citizens of the Republic. If employers and employés will but study the reefs and shoals here pointed out and steer their own craft clear by a due regard for each other's resources, abilities, and common interests, and, meeting each other in a friendly and conciliatory spirit, may they not save themselves and fellow citizens the untold miseries that have ensued in England as a result of the colliery strike.

CLAUDE MEEKER,
Consul.

BRADFORD, *October 10, 1893.*

TIN PLATES AND SHEETS.

I inclose an abstract from the return of the board of trade showing the amount and value of tin plates and sheets exported from the United Kingdom to other countries during the nine months ended September 30, 1893, and for corresponding periods of the years 1891-'92.

Quantity of tin plates and sheets exported from Great Britain.

Country.	Month ended September 30—			Nine months ended September 30—		
	1891.	1892.	1893.	1891.	1892.	1893.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
Russia.....	4,594	2,024	1,631	20,931	19,818	22,245
Germany.....	239	490	255	1,575	2,954	2,457
Holland.....	328	400	507	3,185	3,136	3,686
France.....	497	982	2,363	4,274	7,370	8,612
Portugal, Azores, and Madeira.....	701	35	696	3,016	3,203	5,065
Italy.....	761	97	455	4,999	5,012	2,944
Roumania.....	703	286	334	2,794	4,266	3,871
United States.....	11,139	22,535	13,789	284,316	214,527	212,241
Brazil.....	544	493	329	3,275	4,720	3,892
Argentine Republic.....	567	177	237	3,031	1,942	2,223
British East Indies.....	541	197	604	1,999	3,353	4,610
Australasia.....	1,284	502	802	7,163	5,964	4,961
British North America.....	2,241	792	873	11,904	9,731	9,461
Other countries.....	1,961	1,525	2,236	11,567	14,786	15,377
Total.....	26,100	30,535	25,111	363,959	300,782	301,681

Value of tin plates and sheets exported from Great Britain.

Country.	Month ended September 30—			Nine months ended September 30—		
	1891.	1892.	1893.	1891.	1892.	1893.
Russia.....	£ 62,165	£ 25,380	£ 20,515	£ 320,658	£ 254,448	£ 273,207
Germany.....	3,487	6,706	3,125	25,655	40,804	32,173
Holland.....	5,175	5,519	7,129	54,180	46,151	53,397
France.....	7,558	13,518	31,068	72,266	105,390	115,839
Portugal, Azores, and Madeira.....	9,968	484	8,894	47,409	42,910	64,721
Italy.....	11,161	1,484	5,551	78,118	67,801	37,686
Roumania.....	10,500	4,215	4,737	43,486	61,141	54,418
United States.....	159,520	297,725	179,465	4,672,212	2,867,787	2,788,585
Brazil.....	8,286	6,888	4,460	56,271	65,408	52,267
Argentine Republic.....	7,737	3,064	3,422	51,052	28,905	30,146
British East Indies.....	7,631	2,902	7,725	29,669	45,995	58,868
Australasia.....	18,646	6,835	10,367	120,574	85,209	66,880
British North America.....	32,314	12,464	12,086	190,155	148,527	138,221
Other countries.....	30,169	21,603	30,483	197,019	215,293	213,810
Total.....	374,317	408,787	329,027	5,958,724	4,075,769	3,980,218

ANTHONY HOWELLS,

Consul.

CARDIFF, October 9, 1893.

NOTES.

Amoy Tea Trade.—On August 5, 1893, Dr. Grunenwald, acting consul at Amoy, reports:

In consequence of the unusual high prices demanded by the brokers, the tea market is so far very dull. European buyers are very shy, and the merchants are equally reluctant in parting with their goods. The average price asked per picul is \$3 or \$4 higher than last year for the same quality of tea, and at about the same time; hence there are over 100,000 half chests of it in stock in Amoy, principally in the hands of Chinese brokers.

American Roofing Slates.—The consular agent at Londonderry, Ireland, under date of September 8, 1893, reports as follows:

During my investigation in connection with the subject of packing American goods for export a matter was brought to my attention which may be of interest to the Department, viz, the superiority of roofing slate quarries at points in Pennsylvania. One of the largest building contractors in my district has had a cargo of this slating, and he informed me that for uniformity of dimensions, quality, and color (deep sea green), it is superior to any other slating imported. It is entirely free from pyrites, possesses an extraordinary toughness, and is the most desirable slate for every description of roofing in exposed positions. For these reasons its sale should be pushed, not only in Ireland, but throughout Europe.

American Goods in Salvador.—Mr. G. J. Dawson, vice-consul at San Salvador, reports, August 31, 1893:

During the month of July last, according to Government accounts, the goods imported from the United States free of duty by the seaport of Acajutla were as follows:

Articles.	Quantity.	Articles.	Quantity.
	<i>Pounds.</i>		<i>Pounds.</i>
Coal.....	41,538	Indian corn.....	690,560
Portland cement.....	73,876	Rice.....	9,600
Galvanized-iron wire.....	67,306	Potatoes.....	17,600
Railroad materials and machinery.....	39,234	Lumber.....	63,144
Soap and candle materials.....	75,318	Telegraphic materials.....	11,014

In the importation of the foregoing goods European countries made no competition, except in soap and candle materials, Great Britain contributing 32,000 pounds; Germany, 41,936 pounds; and France, 11,288 pounds.

American Goods in Nova Scotia.—Under date of August 15, 1893, Consul Pendleton, of Pictou, reports as follows:

In a district comprising the whole northern coast of Nova Scotia, including Cape Breton and the Magdalen Islands (in the Gulf of St. Lawrence), which yearly exports to the United

States about \$300,000 worth of its products, the return imports from the United States are lamentably small. This is owing, doubtless, in a large degree to the Dominion tariff, but to some extent, it seems to me, to a lack of attention or knowledge on the part of our exporters to the possibilities of trade with the intelligent merchants of this district. A large number of the latter have told me that American goods are popular here, and that they would like to handle more of them if they had the chance. I have met one or two American commercial travelers who find it worth while to come to this vicinity in the interests of their firms. More of them, however, should come.

Consular Reports Transmitted to Other Departments.—The following reports were referred during the month of October to other departments for publication or for proper action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
Lucien J. Walker, Queenstown.	Sept. 12, 1893	Crops in Great Britain and Ireland.	Department of Agriculture.
W. H. Edwards, Berlin.....	Sept. 28, 1893	Crop statistics of the German Empire.	Do.
Max Judd, Vienna.....	Sept. 25, 1893	Potato crop of Europe.....	Do.
Do.....	Oct. 7, 1893	.....do.....	Do.
Edward Schneegans, Saigon....	Sept. 9, 1893	Rice market.....	Do.

SAUSAGE CASINGS

IN

FOREIGN COUNTRIES.

CIRCULAR.

On May 15, 1893, the following circular was addressed by the Department to such consuls of the United States as represented districts in which the sausage-casing industry was supposed to exist:

The Department has been requested * * * to secure certain information concerning the sausage-casing industry in foreign countries, covering the following points:

(1) The weight of the animals—sheep, goats, hogs, and cattle—when slaughtered, the intestines of the larger being more desirable for sausage casings than those of the smaller animals.

(2) The extent and manner of conducting the industry.

(3) Where the product is consumed, and if any is exported to the United States.

(4) The names and addresses of the leading firms or persons engaged in the industry, together with such other information as may be of interest to those engaged in the business in the United States.

You are therefore directed to prepare a report, in compliance with the above request, covering the industry in your district, and transmit the same to the Department at your earliest convenience.

I am, etc.,

JOSIAH QUINCY,
Assistant Secretary.

This circular was sent to the following consulates-general and consulates:

EUROPE.

Austria-Hungary.—Trieste.*

Belgium.—Antwerp,† Brussels.

Denmark.—Copenhagen.†

France.—Marseilles, Paris.†

Germany.—Barmen,† Berlin, Hamburg.

Italy.—Florence, Genoa, Leghorn.*

Netherlands.—Amsterdam.†

Russia.—Odessa,† Batoum,† St. Petersburg.†

Spain.—Barcelona.

Turkey.—Constantinople.

United Kingdom.—Belfast, Bradford, Bristol, Cork,† Dublin,† Glasgow, Liverpool, London, Sheffield.

AFRICA.

Cape Colony.—Cape Town.

Egypt.—Cairo.

Morocco.—Tangier.

AMERICA.

Argentine Republic.—Buenos Ayres.

Colombia.—Barranquilla.

Mexico.—Mexico, Veracruz.

Uruguay.—Montevideo.

* Answer received, but the condition of the industry in the district did not warrant its publication.

† No answer received.

ASIA.

China.—Shanghai.*

India.—Calcutta,* Bombay.†

Persia.—Teheran.*

AUSTRALASIA.

New South Wales.—Sydney.

New Zealand.—Auckland.

Victoria.—Melbourne.

* Answer received, but the condition of the industry in the district did not warrant its publication.

† No answer received.

EUROPE.

BELGIUM.

BRUSSELS.

AVERAGE WEIGHT OF ANIMALS.

The average weight of animals when slaughtered at the Brussels slaughter-house is as follows :

Kinds.	Weight.	
	<i>Kilograms.</i>	<i>Pounds.</i>
Oxen.....	360	794
Bulls.....	300	661
Cows.....	240	529
Hogs.....	80	176
Calves.....	70	154
Sheep.....	22	49
Goats.....	14	31

MANNER OF CONDUCTING THE INDUSTRY.

The intestines of small animals are in greater demand on the market for sausage casings than those of the larger animals. The demand at all times exceeds the supply, and considerable importations are made from England and the north of France, as well as from the United States and South America. On the other hand, the intestines of the larger animals, which are only used here as casings for saveloy and Bologna sausages, are greatly in excess of the demand, and consequently important quantities are daily exported to Germany. The intestines of small animals are employed as casings for all kinds of fresh sausages, as well as for hog and blood puddings.

In addition to the natural intestines, a parchment-paper casing is also employed here, principally for ham sausages. After the sausage is manufactured this casing is given a brilliant red coloring.

CONSUMPTION AND EXPORT.

As there are no firms or persons in Brussels specially engaged in this industry, the business is conducted by dealers in tripe, ox hearts, midriff, horse meat, and pork.

The production barely supplies local demand. Occasionally during the summer months small shipments are made to country and seashore resorts. No exportation is made to the United States. While a small amount of Bologna sausage is exported to France, large quantities of Gotha, West-

phalia, Frankfort, Lyon, Gudderland, etc., saugages are imported from Germany, France, and Holland into Brussels.

DEALERS.

The gut dealers in this city (Brussels) are: Ch. Franssen, 19 rue Curens; J. B. Hemeleers, 9 Boulevard Anderlecht; T. Ray, 12 rue Schmitz; J. Walters (manufacturer of artificial casings), 20 rue du Chimiste.

GEO. W. ROOSEVELT,

Consul.

BRUSSELS, *July 21, 1893.*

FRANCE.

MARSEILLES.

The sausage industry, as understood by us, does not exist at Marseilles.

The consumption of meat at Marseilles is small, and of pork and hog products extremely limited. This is due in part to its dearness, the animals coming long distances, and the customs and octroi duties being excessive; in part, to the climate and habits of the people, the climate making it dangerous to eat large portions of meat, as is done in the United States, and especially dangerous to eat hog meat; and the custom of consuming large quantities of bread, wine, and vegetables doing away with the craving for meat in a manner not understood by Americans.

A very small amount of fresh sausage is eaten here during the winter. The few dried sausages that are consumed come from the north.

The subject of sausage and sausage casings is so unimportant here that there is no interesting information obtainable. Of course, there is no exportation of these articles.

CHAS. B. TRAIL,

Consul.

MARSEILLES, *May 31, 1893.*

GERMANY.

BERLIN.

WEIGHT OF ANIMALS WHEN SLAUGHTERED.

The average weight of sheep slaughtered in Germany is 50 to 60 pounds; of hogs, 200 pounds; and of oxen, 600 to 700 pounds. Goats are seldom slaughtered, male kids being killed very young. Goats are kept by the poorer classes for their milk.

Intestines of cattle and hogs are largely exported to Europe from the United States, Hamburg being the chief market. There are many great sausage-manufacturing firms in Brunswick and in the vicinity of Osnabrück.

Sheep intestines are exported from Russia and Germany to the United States through Berlin and Hamburg.

Goat intestines come chiefly from Italy and other states of southern Europe, where these animals are kept in large numbers. They are generally sold, it is said, as sheep intestines.

MANNER OF CONDUCTING THE INDUSTRY.

Ox intestines are usually very simply prepared by cutting. Hog intestines require much more careful and painstaking treatment.

Ox intestines are, while fresh, at once turned inside out and soaked in warm water so as to get rid of any fat attached to them. They are then cleaned and placed in a basket or elsewhere. As soon as the cleaning is ended, they are well sprinkled with salt and turned over and the top layer is again salted. They should be so placed that the water can run off conveniently. Two days later they are again salted and stirred. Eight days later they are hung up singly to dry. They should not, however, be allowed to become too dry; on the contrary, they should remain flexible and feel damp. In such condition they are packed in layers in cases; dry salt is sprinkled between the layers. Then the case is nailed up, covered with a loosely woven cloth. Prepared in this way they can be easily kept until summer; they lose neither strength nor elasticity, and remain free from insects and unpleasant odors. If placed in pickle, the ox intestines after a time are apt to become soft; this happens very soon if they are laid in water and then placed salted in tight casks.

Small frying-sausage hog intestines are salted in the same manner as ox intestines; but, instead of being dried, bladders are taken, part of the top being previously cut off and little holes being stuck in the bottoms and sides, so that the water can run off. The intestines are placed in these bladders and a little salt is strewn among them. The bladders are then closed, tightly bound, and kept in an airy place.

Larger intestines are cleaned, salted, laid away for eight to ten days in water-tight casks, and then turned inside out. In this way the yellowing is avoided when they are kept throughout the summer. They are then salted again in the same or similar casks and so weighted that the pickling fluid covers them. These intestines do not soften in pickle.

Dried intestines and bladders are kept in dry places in boxes; a little ground spice is strewn on them, or placed, unground, in bags among them. The case is well closed, and thus they are protected through the summer from insects.

Messrs. Gebrüder Haberkorn, in Hamburg, are said to do the largest business in intestines in Germany. In Hanover, David Storm is a large dealer in these articles.

W. H. EDWARDS,
Consul-General.

BERLIN, *August 9, 1893.*

HAMBURG.

WEIGHT OF ANIMALS WHEN SLAUGHTERED.

The approximate weight of animals when slaughtered in the Hamburg public slaughterhouse is as follows: Sheep, 40 to 80 pounds; oxen, 500 to 600 pounds; hogs, 200 pounds in winter and 140 pounds in summer. Goats are not slaughtered here.

EXTENT AND MANNER OF CONDUCTING THE INDUSTRY.

About 75 per cent of the intestines of the animals slaughtered in Hamburg are, on the day of slaughtering, sold to one firm, who immediately salt or dry them and then warehouse them until the time for consuming has arrived. There are slaughtered here weekly about 600 to 700 head of cattle, 2,000 hogs, and 2,000 sheep. In the cold season about 20,000 to 30,000 additional sheep are slaughtered, packed in large cases or crates, and shipped to the London market.

CONSUMPTION AND EXPORT.

The salted guts are principally consumed in the interior of Germany, where the sausage factories are situated in the smaller towns. Large quantities of Russian sheep guts are exported from Hamburg to the United States. These are carefully assorted here according to width, and the best, which are the widest ones, are sent to the United States, while the narrow ones are used in Germany for making strings for musical instruments and machine bands.

The value of rennets, guts, and bladders shipped through this consulate during the fiscal years ended June 30, 1892 and 1893, was, respectively, \$52,152 and \$30,633. This shows a decrease for 1893 of \$21,519.

DEALERS.

In Hamburg and the surrounding district there are a number of dealers in intestines, who, however, do not manufacture casings, but confine themselves to buying the goods wholesale and selling them in retail quantities to the smaller dealers or consumers in the interior on credit. The following is a list of these parties as given by the Hamburg City Directory: A. Ballin, R. Baltzer, A. Beiser, C. F. E. Blech, A. Brandes, R. Dahms & Co., B. Deutsch, E. Döbbling, G. M. Ellinger, D. H. F. Gödecke & Co., A. Görski, A. Haberkorn, H. Huss, H. Isaacs Nachf, H. Israel & Co., H. F. Kirsten, H. L. I. Klodt, C. A. L. Klöckner, W. Kypfer, H. Leube, H. Morg, H. G. Poser, W. E. E. Schmidt, G. M. Schrotzberger, C. Simon & Co., J. C. H. Uhrbach, and J. C. Wolf & Oetzmann.

The largest shippers of guts from Hamburg to the United States are: Schaub & Co., S. Oppenheimer & Co., and Max Gutensohn & Co.

Salted guts are imported into Germany from England, Russia, and the United States. Besides these, salted ox and sheep guts are imported from nearly all countries. Such so-called "pound hog guts" (*Pfundschweine-därme*) as are consumed here are imported from the United States and Denmark. American salted ox guts have become very popular in Germany. Dried guts are supplied by Hungary, southern Russia, and Roumania, the fatty intestines of the United States not being as appropriate for drying. Hog bungs are received, two-thirds from the United States and one-third from Denmark.

I am, in a great measure, indebted to Messrs. Schaub & Co., of this city, for the information given in this report.

W. HENRY ROBERTSON,

Consul.

HAMBURG, *July 31, 1893.*

ITALY.

FLORENCE.

WEIGHT OF ANIMALS WHEN SLAUGHTERED.

In this consular district only hog's flesh is prepared and cased for sausages; that of sheep, goats, and cattle is not utilized for this purpose.

The weight of the swine slaughtered for the industry named varies from 1 to 3 metrical quintals each (220 to 660 pounds).

In casing hog's meat for large and heavy sausages—Bologna or Mortadella—ox intestines are used; for small sausages, calf intestines.

Previous to the filling of these casings they are thoroughly rinsed, well cleaned, and then dried. The intestines of swine are also used, after being well cleansed, for the casing of fresh and hashed hog's flesh, in order to make a sort of thin and tender sausage, which is usually consumed in the vicinity of preparation during the winter.

Ox, calf, and swine intestines procured in the several provinces are not sufficient for the sausage production; consequently the leading firms and individuals engaged in this traffic derive the larger supply of animal intestines from Germany, Austria, Hungary, and a goodly portion from South America—the latter mostly coming from Buenos Ayres and vicinity.

EXTENT AND MANNER OF CONDUCTING THE INDUSTRY.

The average number of hogs slaughtered in the provinces of this district is approximately as follows: Bologna, 32,000; Modena, 15,000; Reggio (Emilia), Ferrara, Ravenna, and Forli, 12,000; and Florence, 1,900; total, 60,900.

In this immediate vicinity there is but limited—in fact, only nominal—traffic in the sausage manufacture, mostly all made being used for local consumption.

Sausage of one kind or another is an edible that possibly figures more conspicuously upon every table in Italy, from prince to peasant, than anything else, although among the poorer classes it is more extensively used. In fact, the sausage demand in Tuscany exceeds the local supply, and much of it is derived from northern Italy. In the city of Florence and environments a special sausage for the workingmen is prepared with pepper and garlic as ingredients, and an additional kind with fennel seeds.

I append a statement showing the declared quantity of salted animal intestines imported into Italy during the year 1892.

	Pounds.
Argentine Republic.....	506,401
Austria-Hungary.....	368,392
France.....	324,079
Germany.....	14,550
Netherlands.....	22,267
Spain.....	7,055
Switzerland.....	37,479
Total.....	1,280,223

The total value was \$116,140.

The casing of animal flesh is performed by means of special machines, mostly manufactured in Italy, though some come from abroad. Two of the most useful and popular—the meat choppers—are of American manufacture. One is operated by steam and the other by hand. Possibly from 30 to 50 of these machines are used in this district, the steam machine predominating.

For exportation to very distant countries the various sausages, after a seasoning process of several months' duration, are cut in slices and pressed in hermetically sealed cans.

CONSUMPTION AND EXPORT.

The sausage product is largely consumed at the various important places of preparation, but by far the greater portion is exported to the most prominent cities of Europe. Much of it finds its way to South America. Only a very limited quantity is exported to the United States; during the year ended June 30, 1893, the amount exported thither from the district of Bologna, the most important of all for the industry, represented a value of only \$1,115.

DEALERS.

The following are the names and addresses of the leading firms and individuals engaged in the preparation and casing of sausage in this consular district:

Bologna.—Fratelli Nanni, Giuseppe Romagnoli, Fratelli Zappoli, Fratelli Lauzarini, Alessandro Forni, and Raffaello Orsi.

Modena.—Ditta Bellantini.

Formigine.—Frigeri Ferrari.

Salistre-Florence.—Marco Arrighetti.

JAMES VERNER LONG,

Consul.

FLORENCE, *July 25, 1893.*

GENOA.

The natural formation of the territory comprising this consular district is such that only about one-fifth thereof is capable of cultivation. Four-fifths of the food supplies of Liguria are brought hither from the interior provinces of northern Italy or by sea. From these facts the conclusion can be drawn that the sausage industry consists more in the consumption than in the manufacture of the article in this consular district.

As a matter of course, cattle, sheep, goats, and hogs (very few of the two last named) are slaughtered here. The intestines of those animals, however, instead of being utilized at the place of slaughter, are first cleaned, then either dried or packed in salt, and shipped to manufacturers of sausage in the provinces of Bologna, Lombardy, and Piedmont, whose chief cities are, respectively, Bologna, Milan, and Turin.

The invoice book in this consulate does not show that sausage casings have been shipped to the United States from this consular district.

JAMES FLETCHER,

Consul.

GENOA, *July 11, 1893.*

SPAIN.

CATALONIA.

There are no sausage-casing houses in Barcelona. Such houses as there are in this province are in Vich, a city of 15,000 inhabitants, situated about 40 or 50 miles (two hours in the train) from Barcelona. The principal house there is that of Ramon Camill, Calle de la Plateria, No. 10. The sausages there are made of pork, and also, it is said, of horse flesh. The casings are very dark in color and rough, and vary in length from about 1 foot to 3 feet. When the casings are filled, the finished Vich sausage is hard, and can be kept for several years, owing to the amount of pepper therein. A pound of it sells for about 3 pesetas (60 cents). There are no sausages or casings exported from this district to the United States.

HERBERT W. BOWEN,

Consul.

BARCELONA, *June 5, 1893.*

TURKEY IN EUROPE.

CONSTANTINOPLE.

WEIGHT OF ANIMALS WHEN SLAUGHTERED.

The weight of the animals when slaughtered is as follows: Sheep and goats, from 34 to 57 pounds; hogs, 76 to 340 pounds; oxen, 453 to 566 pounds; cows, 198 to 340 pounds.

The intestines of sheep are almost exclusively used for little sausage casings and those of oxen for sausage casings in general. The intestines of hogs are very little used, as the casings are liable to break.

EXTENT AND MANNER OF CONDUCTING THE INDUSTRY.

The sausage-casing industry in this capital is rather extensive, but is not conducted in a systematic manner. Every beef and cattle merchant and butcher prepares sausage casings from the intestines of the animals slaughtered for his account and sells them either to his regular customers or to the general public. The sheep sausage-casing industry is more extensive, as a greater number of sheep are slaughtered and their intestines are preferred for sausage casings throughout Turkey. Most of the sheep casings are prepared at the Seven Towers, one of the suburbs of this capital.

The manner in which the industry is conducted is quite primitive. No regular factories exist, and no machinery is used for the preparation of the sausage casings. Large intestines are first emptied and washed thoroughly; then they are placed on the floor (wooden or stone) or on tables, and cleansed with sawdust until all objectionable matter is removed. They are afterwards packed with salt in little barrels with perforated bottoms to allow all water to escape. They are kept in this condition until the time when they are filled, remaining sometimes for more than a year packed in salt. At the time of filling they are taken out of the barrels, washed with tepid water, in order to remove the salt, and then filled. The intestines of sheep are first turned inside out by means of a stick and then washed, packed, and washed again, like those of the oxen, and filled by a kind of hand machine.

CONSUMPTION AND EXPORT.

The product is consumed mostly in this capital and in the neighboring districts. Considerable quantities are exported to other European countries, but very little to the United States.

The price of sheep sausage casings already manufactured and ready for filling is from 7 to 8 cents per piece and from \$1.10 to \$1.76 for 2.83 pounds of ox casings. If large quantities are contracted for, a reduction can be obtained in prices. Unmanufactured casings or intestines of sheep

are sold at from 1 to 2 cents per piece. Intestines of oxen are not sold in a raw condition, being prepared by the several butchers.

DEALERS.

Among those engaged in the industry of intestines of the larger animals—oxen—I may mention Sotirios Gondas, a first-class butcher, 139 Grand Rue de Galata, Galata, Constantinople. Nicolas Sclavuno is the leading manufacturer of sheep casings at Yedi-Koulé, Constantinople.

WILLIAM B. HESS,
Consul-General.

CONSTANTINOPLE, *July 18, 1893.*

UNITED KINGDOM.

BELFAST.

EXTENT OF THE INDUSTRY.

The industry in this district is of very minor importance, the small butchers making their own sausages and preparing their own casings. Consequently the casings must be identified with the sausages. There are in this city three small concerns which make a specialty of the manufacture of sausages. From one of these I have obtained the following information bearing upon the points mentioned in the circular.

WEIGHT OF ANIMALS WHEN SLAUGHTERED.

The average weight of the animals when slaughtered is as follows: Cattle, 600 to 700 pounds; pigs, 100 to 200 pounds; sheep, 80 pounds; and goats, 40 pounds. I would add, in this connection, that nearly all the food animals in this country are undersized compared with those raised in the United States.

In the case of cattle and hogs the intestines of the medium-sized animals are preferable for sausage casings, although all the hogs' intestines are utilized. The larger sheep are more desirable, and the intestines of goats are practically of no use whatever.

CONSUMPTION AND EXPORT.

Nearly all the sausages manufactured here are consumed in this vicinity and in England. A small quantity goes to France and Germany, but none to the United States, although there seems to be a small quantity of American product consumed here.

MANNER OF CONDUCTING THE BUSINESS.

I have endeavored to obtain information concerning the manner and process of preparing sausage casings, but have been unsuccessful, as it seems to be considered a trade secret.

DEALERS.

The names and addresses of the sausage manufacturers in Belfast are as follows: Belfast Sausage Manufactory, 14 William street, south; Meakin Brothers, Memel street; and Vornberger, Hirsch & Co., 5 Dalton street.

JAMES B. TANEY,

Consul.

BELFAST, *July 24, 1893.*

BRADFORD.

The largest producer of sausage casings in Bradford (J. R. Smith, of No. 19, Whetley Hill) utilizes all his finished product in his own business as a sausage-maker and buys very largely from others, using not only casings imported from the Continent, but from the United States as well. I called at his establishment and was courteously shown through every department. He manufactures fifteen to twenty varieties of sausage, put up in casings from cattle, sheep, and hogs. The weight or age of the animal is not considered by Bradford dealers to make any particular difference in the quality of casings, with the single exception of sheep. Lamb intestines, I was informed, were not considered good, though they are used.

The intestines are cleaned by hand. It was explained that American casings were probably cleaned by machinery, as those they received from the United States are quite likely to have defects consisting of small holes. It was also said that American-fed animals were subject to lumps or hard substances along the intestines, which perforated and rendered them of less value.

Mr. Smith imports ox bungs from America, which he has found very serviceable and useful. They are from 6 to 12 inches in circumference when filled with sausage of the variety termed Anglo-German. This sausage is smoked and then put on the market. There is a sale for all that he can make.

The method of cleaning the hog and sheep intestines is to place them while fresh upon a bench in front of a workman. They are then scraped with a piece of hard wood taken from a cigar box, which is sharpened and rounded. This makes a desirable utensil and does not injure the skin. After the first scraping they are washed and then scraped again, after which they are once more rinsed off and salted. In this condition they become dry, and a handful of them taken up resemble at first sight a bunch of cotton string or twine. Now they are ready for use, and when needed for filling are soaked and washed, after which they are transparent and yielding.

Casings from sheep and lambs are used for an inferior or medium sausage. Many lamb guts are used for violin strings. Those from swine, which are more highly esteemed, are used for what is called in the trade "best

sausage." The weight of swine from which these intestines are taken is from 100 to 300 pounds and upwards. From the light weight the sausage is narrow, and the heavier weight is therefore considered the most useful.

Sheep casings vary in proportion to the size and breed, the casings from the species known as the "Southdown" being held in the highest favor.

Mr. Smith's establishment uses 50,000 sets of hog intestines per year, each set varying in length from 10 to 15 feet, and also 50,000 sets of sheep intestines annually. Of cow or ox bungs he uses 65,000 per year, one half of which are imported from the United States or the Continent. The importations are through the house of Oppenheimer & Co., of London, New York, and Chicago, whose home offices are at 18 and 20 John street, London. Mr. Smith holds that a cow produces a larger bung than a bullock.

All this product in the way of finished sausages is marketed in Bradford or within a radius of 100 miles, which includes a number of large cities like Leeds, Nottingham, Sheffield, Derby, Halifax, York, Huddersfield, etc.

The prices of these casings as furnished to the sausage-makers are: Sheep and swine, 25 cents (or 1s.) per pound; for ox bungs, \$5.50 to \$7.50 per bundle of 100 bungs.

Another lining used for expensive sausages of fine quality—called respectively chicken, tongue, and ham sausages—is the "weasand" (the lining of the throat of a cow). The "chicken" is really pork, the name of the fowl being supposed to have a more alluring sound. The price of weasands is 62½ cents per dozen of best quality. Mr. Smith purchases most of the casing product of Bradford butchers, and is, in addition, a butcher himself. Some he buys in the finished shape and some just as they come from the animals, having them cleaned by his own men.

It is worthy of remark that the greatest cleanliness pervades his entire place. There are no sickening odors. Water is kept constantly running, and no filth of any kind accumulates. The meats composing the various sausages stewing in vats emitted a savory odor.

It was with pardonable pride I heard that the patent steam boilers in which the meats were cooked, the feeding machines (which filled the larger casings in a few seconds), and the coloring matter in which some of the sausages were dipped for a second and turned a bright orange were imported from the United States, mostly from Chicago, through Oppenheimer & Co. The coloring matter was termed the "camwood dye." The machinery gives the greatest possible satisfaction and is considered a wonderful improvement over the old way. The only thing on which they will not have machinery is in the cleaning of the casings, claiming that hand work gives a much superior article.

The next largest producer is the firm of Swires & Tallantire, 4 Abattoir, Filey street, who have also slaughtering stalls at the public meat market. This firm prepares for the trade all the intestines from the animals slaughtered by themselves, and also purchases the raw intestines from neighboring butchers. Their process is similar to that used by Mr. Smith, before men-

tioned. Considerable of their finished product is sold to Mr. Smith and other local sausage-makers at 25 cents per pound (sheep and hogs).

Two or three years ago this firm shipped by request two or three small lots of casings to the United States; but this is the only instance I could discover in my investigations among Bradford butchers where these goods had been exported, and the records of this consulate do not show these shipments as having gone through the usual and regular course.

In addition to those named, there are in round numbers five hundred butchers in Bradford who utilize their own product in sausage-making, who sell to each other, or who distribute their casings to dealers throughout Great Britain. Upon the whole, I should say, however, that there is more demand for casings here, as shown by the report from Mr. J. R. Smith's establishment, than the local production could possibly supply, and that about twice as many casings are needed in the trade as are produced from Bradford slaughterhouses.

I also found that a good percentage of the cattle killed in Bradford are from the United States. The butchers go to Liverpool and Birkenhead, where they select their own steers, generally in hundred-head lots. They all spoke in the highest terms of this American beef.

CLAUDE MEEKER,
Consul.

BRADFORD, *June 10, 1893.*

BRISTOL.

WEIGHT OF THE ANIMALS.

It is hardly possible for the manufacturer to concern himself about the weight of the animals from which come the intestines. He buys what he must buy, and takes good, bad, and indifferent and large and small. The intestines are regarded by the butcher as a waste product, and the casings-maker must take all or none. It does not seem to follow that the size and weight of any particular animal are any criterion of how suitable the product will be for the particular purpose intended, and it may happen that only 3 or 4 yards can be made into casings, though sometimes as many as 30 are obtained, the average, roughly speaking, being about 15. Such part as is condemned for casings finds its way into the hands of the musical-instrument maker, who turns the best into catgut for strings—the fine for violins, the coarser for harps, etc., and the still coarser being utilized for whip gut, machinery bands, and so on.

Only the finer and selected grades of casings made from sheep intestines are exported from this country to the United States; and this market exists only for the reason that the intestines of American sheep are not found to be suitable for the purpose. A most careful selection is made for the American market with the idea of maintaining such a regularity of size as shall result

in from eight to ten sausages to the pound. The idea prevails in this country, though I do not know if it be well founded, that these selected grades are re-sorted in the United States by importers, and that an admixture of Russian, New Zealand, or other sorts is introduced; so that by the time the product is in the hands of a western sausage-maker two barrels of the English product will have swelled into three.

MANNER OF CONDUCTING THE BUSINESS.

The industry is not developed to any great extent in this district; but I understand that the local product has a general reputation both in this country, in Germany, and in the United States for a high excellence of quality resulting from careful selection of the raw material and minute attention to the process of curing. There being no municipal or general slaughterhouse in Bristol, the trade is conducted under unusual difficulties. Butchers kill at any time of day, and often it is late in the evening when the intestines reach the hands of the sausage-casing maker. He has two or three agents constantly collecting from among the butchers, who sell the intestines at so much per head of animals killed. The rate varies in the case of sheep; for instance, from 3 to 9 cents per head, the latter being quite an outside price and the general average running about 6 cents. All weights and ages must be taken at the rate. If the butcher kills thirty sheep and thirty lambs, the casings-maker pays an even price for the lot and must take all, notwithstanding the lamb intestines will be practically useless to him. The intestines most preferred are those of the ewe which has dropped lambs, and experience has taught that the soundest integument and the one best suited for the purposes comes either from the Irish crossbred or the Lincolnshire breed. These breeds are not very fat, and their fine, healthy condition results in a strong, tenacious membraneous system. I believe that intestines of imported American sheep have been tested here; but it has been found that they will not answer the purpose, being full of roughnesses and inequalities. In the attempt to cleanse these, a hole is usually broken and the skin rendered useless. It is, I understand, well known in the trade that the intestines of American sheep are not available for a good class of sausage casings. South-downs, on the other hand, are too fine for the purpose, and are made into catgut.

Upon arrival at the works, the gut is immediately cleansed within and without by hand, the fleshy matter adhering being removed by blunt knives. No machinery is used, as it is found that the careful manipulation and selection necessary to produce the best article is impracticable when the ingenious mechanism employed in some of the larger factories is brought into use. Men engaged in this cleansing work earn from \$5 to \$7 per week. A constant and competent oversight is maintained, as there is an excellent opportunity at every stage of the operation for carelessness to ruin the delicate skin.

After cleansing by the knife the skins are placed in a brine bath, in which only the best fine salt (\$7.50 per ton at present prices) is used. After drying

and further salting the skins are packed in barrels, having been hand manipulated in the progress from the slaughterhouse to the final stage no less than ten times. The process is not allowed to occupy more than thirty-six hours at the most. The sheep will be alive this morning and to-morrow night the casings will be ready for delivery. It is this celerity that has won for the Bristol product its high repute. The material operated upon is obviously one extremely prone to decay, and a skin not cleansed immediately after killing will not make a first-class casing.

CONSUMPTION AND EXPORT.

The intestines of the pig are not much used in this district for sausage casings, the vast importation from the United States having cut out the local manufacture; but there is a considerable employment of the cattle intestines. This product finds its market largely in Germany, Hamburg being the great central market of the world for sausage casings. The three grades of cattle intestines are used almost entirely for the encasement of those eatables known through the world as of almost exclusively German manufacture. The running intestine surrounds the Bologna sausage; the middle intestine is used for ham and chicken, and finds a large market in England, as well as in Germany, for the encasement of the *Lebewurst*; while the bung is used for the large German sausage.

DEALERS.

The principal manufacturer of the district is Mr. F. Teacher, of Bristol.

LORIN A. LATHROP,

Consul.

BRISTOL, *June 16, 1893.*

GLASGOW.

The sausage-casing industry here is practically a monopoly in the control of one firm. They declined to give any information as to the extent and manner of conducting their business, and it became necessary for me to obtain what information I could elsewhere.

WEIGHT OF ANIMALS WHEN SLAUGHTERED.

This firm (Vornberger, Hirsch & Co.) state that the weight of the animals when slaughtered the intestines of which are used in their business is as follows: Sheep, from 40 to 70 pounds; hogs, 120 to 190 pounds; cattle, 4½ to 7 cwt. But the weight of the animal, I learn from other sources, is not considered important by manufacturers.

There are several small firms which do a local business, and from visiting them I learn that the intestines of all animals slaughtered for food are used in the preparation of sausage casings.

These intestines are gathered in various parts of Scotland at the slaughterhouses at the time of killing. The intestines of sheep are in the greatest

demand for small German sausages (Frankfort, for instance). The floating colon of cattle is found also to be very desirable for large casings.

EXTENT AND MANNER OF CONDUCTING THE INDUSTRY.

The firm of Vornberger, Hirsch & Co. are the only exporters of this product to the United States. They hold contracts with the principal slaughterhouses in Glasgow, Edinburgh, Aberdeen, Dundee, and all the larger towns in Scotland. There are a few small cleaners in small towns who prepare casings solely for the local trade.

I find that all the work of preparing sausage casings is done by hand labor.

At the slaughterhouses, where the intestines are first handled, they are cleaned by women and boys, who press the contents out with the hands. At the place of manufacture for shipping women generally are employed. They scrape the intestines with a blunt, dull knife to dislodge any fat clinging thereto. After such scraping they are washed clean. The small guts are then covered with salt, rolled in bundles, and packed in salt, when they are considered ready for shipment. The large intestines are blown full of air and, thus distended, are dried in warm rooms. When sufficiently dry the air is forced out and they are tied in bundles and ready for the packing house, from which they are shipped in packages.

CONSUMPTION AND EXPORT.

The firm of Vornberger, Hirsch & Co. inform me that all their surplus product goes to the United States. It may be true that they export only to our country, but it is a fact, nevertheless, that more of the product in Scotland is sent to Germany than to the United States. Many German firms have purchasing agents here, and large quantities of the casings go to Germany through these agents.

The firm of Vornberger, Hirsch & Co. exported to the United States through this office from January 1, 1893, to June 30, 1893, sausage casings to the value of \$7,974. The last invoice was 9 tierces at £20 per tierce. The tierces hold from $3\frac{1}{2}$ to 4 cwts. These goods seem to be consigned to themselves at New York.

ALLEN B. MORSE,
Consul.

GLASGOW, *July 28, 1893.*

LIVERPOOL

EXTENT OF THE INDUSTRY.

The sausage-casing industry is not an extensive one in this district, only two firms—Vornberger, Hirsch & Co., St. Andrew street, Birkenhead, and Michael O'Connor, 76 Edward street, Kensington, Liverpool—being engaged in it. The former is but a branch of the London firm, which is the

largest of its character in the United Kingdom. At both of these establishments the industry is principally confined to sheep intestines, and the export product is entirely restricted to these. The intestines of cattle and hogs are used to a limited extent, but only for consumption here.

In only one of the establishments is machinery used, and then only for cleaning purposes. The methods are comparatively primitive. The intestines are cleaned by washing, and the curing consists simply in packing them heavily with salt. They are packed in large hogshead casks called tierces, containing about 350 pounds each.

CONSUMPTION AND EXPORT.

The export product goes principally to the United States, the minor portion to Germany and the Continent. One of the above firms ships only from 6 to 12 tierces per annum, the other from 26 to 60. Both complain that the demand for their product from the United States is on the decline.

JAMES E. NEAL,
Consul.

LIVERPOOL, *July 27, 1893.*

LONDON.

WEIGHT OF ANIMALS WHEN SLAUGHTERED.

Hogs when slaughtered are of various weights, the smaller, which are consumed as pork, averaging about 100 pounds; the heavier, which average 300 pounds, are cured for bacon. The intestines of the larger hogs are of most value. Those of the small pigs would be of no use for sausage casings. If not too large, the intestines of large sheep (the average weight of fat sheep being 100 pounds) are of much greater value than those of lambs. The number of goats slaughtered is too small to be of any importance. Fat cattle average from 10 to 12 cwt. (1 cwt.=112 pounds) when killed.

EXTENT AND MANNER OF CONDUCTING THE INDUSTRY.

The industry is not very extensive. After the intestines are collected from the slaughterhouses and conveyed to the casing-cleaners' premises for preparation, they are well washed out and soaked in water. They are then carefully scraped until all the superfluous substance is removed, leaving the tissue only; this is then salted and, when thoroughly cured, is ready for use.

CONSUMPTION AND EXPORT.

Sheep casings alone are exported to the United States in any quantity; hog and beef casings are partly consumed in England and partly exported to other European countries.

DEALERS.

The most important firms in the industry are the following, all in London: Bechstein & Co., 118 Suffolk street; J. D. Link & Sons, Weaver street; C. Edwards & Sons, Cow Cross street; G. H. Link & Son, Weaver street; Oppenheimer & Co., Deptford; Vornberger, Hirsch & Co., Deptford; C. Chapman, Deptford; Tracey, Cow Cross street; and Darrington & Sons, Central Meat Market.

PIERCE J. GRACE,
Acting Consul-General.

LONDON, *August 5, 1893.*

SHEFFIELD.

WEIGHT OF ANIMALS WHEN SLAUGHTERED.

The weight of animals when slaughtered is as follows: Sheep, from 55 to 65 pounds, generally about 60 pounds; hogs, from 70 to 224 pounds, generally about 168 pounds; cattle, from 420 to 840 pounds, generally about 560 pounds. Goats are seldom slaughtered, there being very few in the district.

The intestines of the larger sheep and hogs are more desirable for sausage casings and are higher priced. The intestines of cattle are used without regard to size for casings for Bolognas and "puddings," and largely for export.

EXTENT AND MANNER OF CONDUCTING THE INDUSTRY.

It is impossible to state the extent of the industry. In general, the trade is represented by about half a dozen persons employing from three to six hands each and a few small dealers, such as butchers. The manner of conducting the industry is to cleanse, pickle, and salt.

CONSUMPTION AND EXPORT.

The principal market for the cattle casings is Germany, Hamburg in particular, where they are used as casings for German sausages, etc., without regard to size. The principal markets for sheep and hog casings are Sheffield and London. No direct exportation exists from Sheffield to the United States. Some London dealers buy here and export to the United States.

DEALERS.

The names and addresses of the leading firms or persons engaged in the industry are: George Weston, Exchange lane, Sheffield, and Charles Friedrichsen, Castle Folds lane, Sheffield.

BEN. R. BEDLE,
Consul.

SHEFFIELD, *August 4, 1893.*
No. 158—8.

AFRICA.

CAPE COLONY.

The leading stock dealers and butchers of this town (Messrs. Combrinck & Co.) have reported to me that there is no sausage-casing industry in this colony. The butchers cause all the intestines to be cleaned and used in connection with their own individual establishments, and they sometimes buy a few in the English markets. The quantity of sausage skins obtainable in town is barely sufficient for local requirements.

C. H. KNIGHT,
Vice-Consul.

CAPE TOWN, *August 7, 1893.*

EGYPT.

WEIGHT OF ANIMALS WHEN SLAUGHTERED.

The average weight of animals when slaughtered is as follows: Sheep, from 30 to 33 pounds; goats, from 25 to 27½ pounds; hogs, from 110 to 151 pounds; cattle, from 330 to 357 pounds.

EXTENT AND MANNER OF CONDUCTING THE INDUSTRY.

The sanitary authorities of Egypt permit the manufacture of sausage only during the four months of November, December, January, and February. The climate is not favorable for the manufacture on a large scale. The industry is therefore confined to retail butchers, who fill only the orders received from day to day. For example, one of the principal meat dealers of Cairo produces only from 40 to 80 pounds of sausage per day during the season, according to demand.

CONSUMPTION AND EXPORT.

The total product is for local consumption, none being exported. The chief consumers are the foreign residents in the country. The mass of native Moslems do not eat sausage, especially if made of the meat of hogs, for they look upon the hog as an unclean animal.

DEALERS.

Mr. Jacob Zehnder is one of the principal meat dealers in Cairo.

E. C. LITTLE,
Agent and Consul-General.

CAIRO, *July 24, 1893.*

MOROCCO.

The weight of sheep when slaughtered is from 40 to 50 pounds; goats, from 40 to 45 pounds; hogs, about 250 pounds; and cattle, about 400 pounds. There is no "sausage-casing industry" in Morocco. Sausage-making is carried on in a small way by two butchers for local consumption, and not as an industry in the proper meaning of the term.

F. A. MATHEWS,
Consul-General.

TANGIER, *July 8, 1893.*

AMERICA.

ARGENTINE REPUBLIC.

The sausage-casing industry in this country has thus far assumed only very small proportions. Of course, since the earliest times the business of utilizing the entrails of animals for casings for domestic sausages has to some extent been carried on. The consumption, however, was limited to the markets of the country; and it is only within the last year or two that sausage casings (*tripa*) appeared in the custom-house returns as an article of export.

OUTLOOK OF THE INDUSTRY.

That the industry is susceptible of almost unlimited extension is apparent from the fact that the Argentine Republic at the present time is estimated to possess about 20,000,000 horned cattle, 70,000,000 sheep, 5,000,000 goats, and 3,000,000 hogs; and the topographical features of a part of the country, with its widely extended plains of richest pasturage, very large portions of which are still unoccupied, are such that these numbers could be indefinitely increased.

NUMBER OF ANIMALS SLAUGHTERED ANNUALLY.

The killings of animals, principally horned cattle and sheep, in the Argentine Republic, aside from what are consumed for food on the numerous *estancias* of the country, are made by the great slaughterhouses (*saladeros*) on the upper rivers, by the meat-freezing establishments in the province of Buenos Ayres, and at the municipal butchering grounds of this city.

According to statistical returns, the number of horned cattle killed at all the *saladeros* of the River Plate for the year ended June 30, 1893, was as follows:

In the province of Buenos Ayres.....	443,200
In the province of Entre Rios.....	322,800
Along the Uruguay River.....	412,800
In the neighborhood of Montivedeo.....	300,000
Total.....	1,478,800

The number of sheep killed at the freezing establishments in the neighborhood of Buenos Ayres is estimated to be about 4,000 daily, amounting to nearly 1,500,000 per annum.

The killings at the municipal slaughterhouses of this city, according to the official returns for the years 1890, 1891, and 1892, were as follows:

Animals.	1890.	1891.	1892.
Cows and bullocks.....	235,194	282,528	304,859
Calves.....	124,861	144,134	149,195
Sheep.....	303,623	444,677	410,559
Lambs.....	137,364	162,804	153,115
Hogs.....	11,688	8,738	14,061
Total.....	812,730	1,042,881	1,031,789

AMOUNT OF ENTRAILS UTILIZED.

Of all these yearly killings, it may be stated generally that none of the entrails of animals slaughtered at the *saladeros* are utilized or saved, unless in some exceptional cases for local use. Of the sheep killed at the freezing establishments, the greater part of the entrails are prepared for sausage casings, about one-half of which are used here in the country. Of the animals slaughtered at the butchering grounds of this city, I am informed that about two-thirds of the entrails are saved and utilized for casings, of which about 10 per cent are consumed here in Buenos Ayres and the rest exported.

The casings of horned cattle are mostly exported dry, while those of sheep are sent abroad in salt.

EXPORTS OF CASINGS.

Until 1890 the item of sausage casings does not appear in the exports of the country, though they may be included under the head of unenumerated articles. The following is the official return of the shipments for the years 1890 and 1891:

Whither exported.	1890.		1891.	
	Quantity.	Value.	Quantity.	Value.
	<i>Kilograms.</i>		<i>Kilograms.</i>	
Salted :				
Germany	21,630	\$1,082	64,460	\$3,223
Spain.....	1,500	75	4,880	244
United States.....	86,230	4,311		
France.....	100	5	30,540	1,527
Italy.....	90,280	4,063	120,498	6,024
Great Britain.....	57,813	2,891	117,359	5,869
Uruguay.....	5,194	260	37,100	1,855
All other countries.....	10,151	58		
Total salted.....	273,898	13,645	374,837	18,742
Dry :				
Belgium.....			940	38
France.....	1,380	55		
Spain.....	5,950	238	41,240	1,649
Italy.....			6,500	260
Great Britain.....			9,954	398
Uruguay.....			2,000	80
Total dry.....	7,330	293	60,634	2,425
Grand total.....	281,228	13,938	435,471	21,167

Of the shipments for 1890 and 1891, all the dry casings were exported from Buenos Ayres, and the salted casings were shipped as follows:

Ports.	1890.	1891.
	<i>Kilograms.</i>	<i>Kilograms.</i>
Buenos Ayres.....	243,167	287,558
Campana.....	25,580	65,176
Concordia.....	1,151	
La Plata.....		900
San Nicolas.....		12,760
Zárate.....		7,832
Total.....	272,898	374,537

DUTIES, PRICES, ETC.

There is no export duty on sausage casings, but for custom-house statistics dry casings are valued at \$40 per ton and the wet ones at \$50 per ton of 1,000 kilograms.

The present market value of salted sheep casings is \$7 per 10 kilograms; of salted cattle casings, \$3 per 10 kilograms; of the dry cattle casings, 22 cents for every 18 meters of length.

WEIGHT OF ANIMALS.

In regard to the weight of animals killed in the different establishments of the country, I have been furnished with the following figures:

	<i>Kilograms.</i>
Cows for consumption and export.....	300 to 400
Bullocks for consumption and export.....	400 to 500
Fine-wooled sheep:	
For town consumption.....	45 to 55
For export.....	55 to 60
Crossbred sheep:	
For town consumption.....	65 to 75
For export.....	75 to 80

SAUSAGE-CASING ESTABLISHMENTS.

There are but few establishments in the country where sausage casings are prepared other than in the meat-freezing *fabricas*. These, being generally owned in England, make it their business to utilize, for such purposes as they can be employed, all parts of the animals; and special provision is organized for cleaning, salting, and packing the entrails, and sending to foreign countries what are not sold on the spot.

As the foreign demand increases, it is evident that the amount of casings prepared in the Argentine Republic will assume larger proportions. Here in Buenos Ayres the municipal slaughterhouses furnish a large field for the extension of the business. The principal establishment for working the entrails at present is that of Señor Rafael Asencio. He began this work a few years ago, doing the principal part of the cleaning himself. He has so far

prospered that he has now erected suitable buildings for the purpose and employs a large number of hands. Of course, as the industry is seen to pay others will not be slow in engaging in it also.

SHIPPERS AND EXPERTS.

The principal shippers of sausage casings in this city are Messrs. Francesco Dafino, Meliton Romero, Florencio Saenz, and Secundo Saenz. Parties in the United States, however, who desire further information in regard to the industry or who are seeking to open a business in this line of exports would do well to correspond with Mr. S. T. Preston, care of Messrs. Shaw Brothers, No. 75 Calle Piedras, Buenos Ayres. He has been engaged to some extent in this export and is thoroughly acquainted with the details.

TRADE WITH THE UNITED STATES.

I am not able to say whether, at present prices, the casings can be shipped to the United States on such terms as to make the business profitable. It will be observed that for 1890 a large proportion of the shipments went direct to the United States, but that since then no shipments appear to have been sent in that direction. Those shipments were principally made under the auspices of a gentleman who represented parties in Chicago, but why they were stopped I have not been informed. Meanwhile, however, the business with European countries, if not on the increase, at least appears to be steady and permanent.

E. L. BAKER,
Consul.

BUENOS AYRES, *July 20, 1893.*

COLOMBIA.

The weight of animals—sheep, goats, hogs, and cattle—when slaughtered is as follows:

Beef cattle dressed are generally estimated at 350 pounds. The cattle of this coast are neither large nor of good quality.

Hogs, as a rule, are scrawny. There is, however, a breed called "chonchos," which fatten, and when dressed reach 200 pounds.

During a dozen years' residence in this city (Barranquilla), I have not seen half a dozen sheep. I believe they exist on the plains of Bogotá, but on this coast they are curiosities.

Goats abound, but their flesh has little acceptance among the better class of people.

Generally speaking, there is no sausage industry in this district. An old woman living in Soledad, a little pueblo some leagues away, brings to this city about twice a week a *platon* of *butifarras* (little ball-shaped sausages). Probably 25 pounds per week would be about what are sold in the city.

Some German sausages, put up in little half-moon tins, are imported, but to a very limited extent, with exchanges at 150 per cent premium and heavy duties.

E. P. PELLET,
Vice-Consul.

BARRANQUILLA, *September 8, 1893.*

MEXICO.

CITY OF MEXICO.

WEIGHT OF ANIMALS WHEN SLAUGHTERED.

The average net weight of animals when slaughtered is as follows :

	Pounds.
Beeves.....	450 to 500
Sheep.....	30 to 36
Goats.....	18 to 24
Hogs.....	350 to 450

Hogs are never placed upon the market until they attain the age of 5 to 6 years, when they are heavily fed and made to carry as much flesh as possible. Beeves are never highly fed, and as a general rule are poor and never first class. The same also applies to sheep and goats; they are generally poor and unfit for butchers' use.

EXTENT OF THE BUSINESS.

Sausage casing is not followed as a business in Mexico. The offal of slaughtered animals is given to the poor, who consume a part as food. The intestines are cleaned, washed, and dried, and carried about the streets of the city until a buyer is found. The local trade of the city consumes what little is produced.

No export of casings has ever been made from this district, and I much doubt if any has ever been made from the Republic. Some three years ago the packing house of Mr. Swift, located in this city, imported into Mexico from the United States a small shipment of sausage casing. With this exception, no importation or exportation has ever been made; neither would I advise importations of this class of goods (at least at present), as sausage and preserved meats of all kinds are not in such general use as they are in the United States. The prices, however, may have something to do with this, fresh sausage selling at from 31 to 37 cents per pound and the imported at from 75 cents to \$1.25 (the latter German or French), while Armour's canned beef retails at 75 cents per pound.

THO. T. CRITTENDEN,
Consul-General.

MEXICO, *June 19, 1893.*

VERACRUZ.

WEIGHT OF ANIMALS WHEN SLAUGHTERED.

The weight of cattle in this district is not as much as the weight of cattle of the same age in the United States. Very few hogs are raised or slaughtered, and these few are generally small and lean. Very many goats are consumed in Veracruz, and they are generally of good size and in good flesh. But few sheep are slaughtered here.

I am informed that the smaller intestines of the cattle and the larger intestines of the goats are the only ones used here for sausage.

EXTENT OF THE INDUSTRY.

There is no regular establishment for manufacturing sausage in the State of Veracruz. The local butchers in the various cities and towns supply the market.

The amount of sausage used here is very small as compared with similar cities and towns in the United States. The product is very dear, and will not keep long on account of the hot climate.

IMPORTS AND EXPORTS.

The officials at the custom-house inform me that there is no importation of sausage from the United States, or from any other country, except Germany and Spain, from which small amounts are received; and none are exported.

DEALERS.

The names of the leading firms that handle such goods in Veracruz are Callega Brothers & Co.; Ricardo, Murillo & Co.; Martinez Rivera & Co.; and Sierrea Brothers & Co. In the city of Orizaba the leading firm is Martinez Rodriguez & Co. At Jalapi the leading firm is D. Martineque & Brothers. The latter place does very little business.

W. W. APPERSON,

Consul.

VERACRUZ, *June 9, 1893.*

URUGUAY.

The intestines of hogs and cattle are used for sausage casings. In summer, extending here from December to June, the preference is given to those of cattle.

From 200,000 to 300,000 kilograms of sausages are annually manufactured here. In a few establishments the motive power for machinery is steam.

The sausages are manufactured principally for home consumption and as supply for vessels, merchant and national, touching here. Exportation is mainly to Brazil and, to a small extent, to European markets. None of the product is sent to the United States.

The following are the leading sausage manufacturers here: Canto & Co., Camaño & Co., Castiglione & Co., Pose & Co., and Walton, all of Montevideo, and Hoffmann, of Colonia.

Those engaged in the sausage industry here desire to be furnished with particulars as to machinery used in the United States for cutting meat, etc. The machinery now used comes principally from Italy.

In most of the sausages some meat of young cattle is used in conjunction with pork.

The number of hogs in Uruguay is estimated at 1,000,000, though the Government statistics give the number as only a few thousand.

FRANK D. HILL,

Consul.

MONTVIDEO, *September 1, 1893.*

AUSTRALASIA.

NEW SOUTH WALES.

EXTENT OF THE INDUSTRY.

I am informed that no successful steps have yet been taken here to develop this business on extensive lines, the various slaughtering establishments treating only a sufficient number of intestines for local requirements. Mr. R. Richards, the proprietor of the Riverstone Meat Works, informs me that negotiations were pending some time ago between him and a party of gentlemen who were anxious to start a company with the object of developing this industry, but that, owing to the intervention of labor and other troubles, the project was abandoned. None of the firms engaged in the slaughtering business seem disposed to enter into this particular branch of the trade on their own account; but they appear to be unanimous in the opinion that if a company were started here to purchase the intestines from the different establishments, then treat and deal with them on their own account, encourage the export trade, and otherwise develop the industry, a large and profitable trade would result.

WEIGHT OF ANIMALS WHEN SLAUGHTERED.

During the year ended December 31, 1892, the following stock of each kind was slaughtered in the colony of New South Wales: Sheep, 2,404,953; lambs, 127,709; bullocks, 210,731; cows, 66,391; calves, 25,813; hogs, 126,497. To the number of sheep enumerated above must be added about 647,300 killed on the various stations upcountry, making the total number of sheep slaughtered in all 3,052,253. The average weight of cattle when killed is 800 pounds and of sheep 52 pounds.

In the colony there are 1,617 slaughtering establishments, employing 4,154 men. The manager of the Sydney Meat Preserving Company, one of the largest and most successful of these works, informed me that they did nothing with the intestines of the animals slaughtered by them, simply using them for manure.

From the above figures it will be noticed that this colony has undoubted facilities for supplying foreign markets with this commodity if the industry could only be encouraged and developed on sound practical lines.

I would suggest that those in the United States who may be interested should correspond with Mr. R. Richards, of the Riverstone Meat Works, Sydney. This gentleman is engaged extensively in, and thoroughly conversant with, the slaughtering business, and is the best authority upon the subject.

IMPORTS AND EXPORTS.

From the following statistics for the past year it will be observed that more casings are imported into this colony than are exported. I am given to understand that this is partly in consequence of some of the American and other casings being peculiarly adapted for the trade here; but in the main it is owing to the lack of local enterprise in developing the business.

Imports and exports of sausage casings in 1892.

Countries.	Imports.	Exports.
United States.....	\$35,551	\$2,060
United Kingdom.....	2,643	364
Germany.....		3,446
Other Australian colonies.....	21,880	7,430
New Caledonia.....		53
Total.....	60,074	13,353

The houses principally engaged in the export of sausage casings to the United States are Messrs. J. Barre Johnston & Co. and Julius Goldsmidt & Co., both of this city.

CHARLES GREY EWING,
Acting Consul.

SYDNEY, *August 31, 1893.*

NEW ZEALAND.

EXTENT OF THE INDUSTRY.

The value of the sausage casings exported from this colony last year amounted to \$109,595, of which \$5,400 worth were shipped to the United States direct and \$94,600 to the United Kingdom, the remainder having been shipped to other Australasian colonies. I may explain, however, that I am reliably informed that the greater portion of those forwarded to Great Britain are again transhipped to the United States for consumption there.

WEIGHT OF ANIMALS WHEN SLAUGHTERED.

The average weight of animals slaughtered varies considerably in the several districts of New Zealand where the industry is carried on as follows:

Christchurch district.—This is one of the principal districts where the “frozen-meat” export trade has largely developed during the past few years, in consequence of which the “sausage-casing” industry has correspondingly increased and is now thoroughly established and assuming fairly large proportions. The following is given as the average weight of animals slaughtered in this particular district: Sheep, 60 pounds; lambs, 38 pounds; hogs, 100 to 150 pounds. There are no cattle killed for export in the Christchurch district. The intestines of the larger and heavier sheep only are suitable for sausage skins, those of the lambs being regarded as too

tender, while those from hogs are not exported, but are used at home. In this district there are about 350,000 sheep and 200,000 lambs slaughtered annually for export to Great Britain. The intestines of about one-fourth of the sheep killed are prepared for sausage casings, the remainder being prepared in pickle and packed and exported in this condition for manufacture into "gut strings." With the exception of a very small portion which is consumed at home, the whole of the product is exported to the United States. The entire business, it appears, is now confined to two American firms, who have entered into a contract to take the whole output of the above district for some years to come.

Dunedin district.—The intestines of the larger breeds of sheep, such as Lincoln, Leister, and Crossbreds, are principally prepared for "casings." The casings made from lambs and the smaller sheep, such as Merinos, weighing, say, from 35 to 40 pounds, are only about one-third the value of the casings made from the well-matured and larger sheep. The average weight of large, well-grown, healthy sheep when slaughtered is from 60 to 65 pounds. In this district there are about 400,000 sheep slaughtered annually for export.

Auckland district.—The average weight of animals slaughtered here ranges as follows: Sheep, from 50 to 100 pounds; hogs, 60 to 300 pounds; cattle, 500 to 1,200 pounds. There are about 104,000 sheep slaughtered annually, the intestines of which are almost all cleaned and prepared for sausage casings; while there are only about 10,400 hogs killed, the intestines of which are prepared in the same manner and for the same purpose as are those of sheep. There are nearly 80,000 cattle slaughtered annually in this district for export and for home consumption. Only the bungs of these are cleaned. Sheep sausage skins are nearly all exported to San Francisco, but all that are prepared from the hog and bullock intestines are consumed locally. It may be observed that the weight of animals slaughtered in the Auckland district is greater than in those of the other districts mentioned. This is accounted for upon the ground that the climate is milder and the grass better and more nourishing.

There were 55,020 cwt. of frozen beef shipped from this colony last year to Great Britain, valued at \$157,985, and 708,468 cwt. (1,316,758 carcasses) of mutton, valued at \$4,093,125, and of lambs 97,836 cwt. (290,996 carcasses), of the value of \$726,140.

I have selected only three districts out of the many where the sausage industry exists for the purpose of illustrating the extent of the operations in the frozen-meat trade. The three districts mentioned are fairly representative of the whole.

HOW THE INDUSTRY IS CONDUCTED.

The intestines are taken directly from the slaughterhouse to the preparing room, where they are thoroughly cleansed by scraping and forcing the contents out. They then go through several hands and are turned out

perfectly clean, after which they are done up into bundles of about 2 pounds each, preserved in fine salt, and packed in casks made specially for the purpose, holding each about 2,500 runners, one runner representing a sheep. The pieces which are broken off in the course of preparation are treated precisely in the same way, so that there is absolutely no waste. The entire output of this district is exported to the United States via England.

There is one firm—Nelson Brothers, of Napier, New Zealand—who, I understand, ship large quantities of “green casings” to the United States, there to be properly prepared for consumption.

DEALERS AND EXPORTERS.

The following are the names of the New Zealand firms and companies engaged in the sausage-casing industry and their respective addresses: Mount Egmont Freezing Company, Waitara; Nelson Brothers, at Tomona (Napier), Gisborne, Blenheim, Waupukiwan, Milton, Otago, and Woodland; Hawkes Bay Freezing Company, Napier; Longburn Freezing Company, Napier; Wanganiei Meat Export Company; Wellington Meat Export Company; Wellington Gear Meat-Preserving Company; Christchurch Meat Company; New Zealand Provision and Produce Company (works at Belfast and Canterbury); Southland Frozen Meat Company, at Bluff and Maitauri; Ward Frozen Meat Company, Bluff Harbor; Timaru Frozen Meat Company, Timaru; Omaru Frozen Meat Company, Omaru; Auckland Freezing Works, Auckland. The foregoing comprise all of the frozen-meat establishments where sausage skins are prepared for export.

JNO. D. CONNOLLY,
Consul.

AUCKLAND, *August 21, 1893.*

VICTORIA.

The sausage-casing industry is capable of large extension, as much of the material is not at present utilized. There is but one firm—Messrs. Thomson & Dunckley, salt merchants, of 264 Latrobe street, Melbourne—which cleans skins for export. Other firms are engaged in a small way, supplying the local demand.

Although large numbers of cattle are slaughtered, their intestines are not used. Very few hogs are killed, and the product is all consumed here, and the supply is supplemented by importations from the east coast of the United States direct or via English ports.

Very large numbers of sheep are slaughtered, both for shipment as frozen mutton to Europe and in boiling-down establishments, where the whole carcass is tried out for the tallow. The sheep killed are of two breeds—the “Merino” and “Crossbred;” the former is a small sheep producing fine wool, and is the sheep usually boiled down, the carcass being

too small to meet with favor in the markets for mutton, and the runners are small. The Crossbred is the mutton sheep, and produces "good, fair-sized casings."

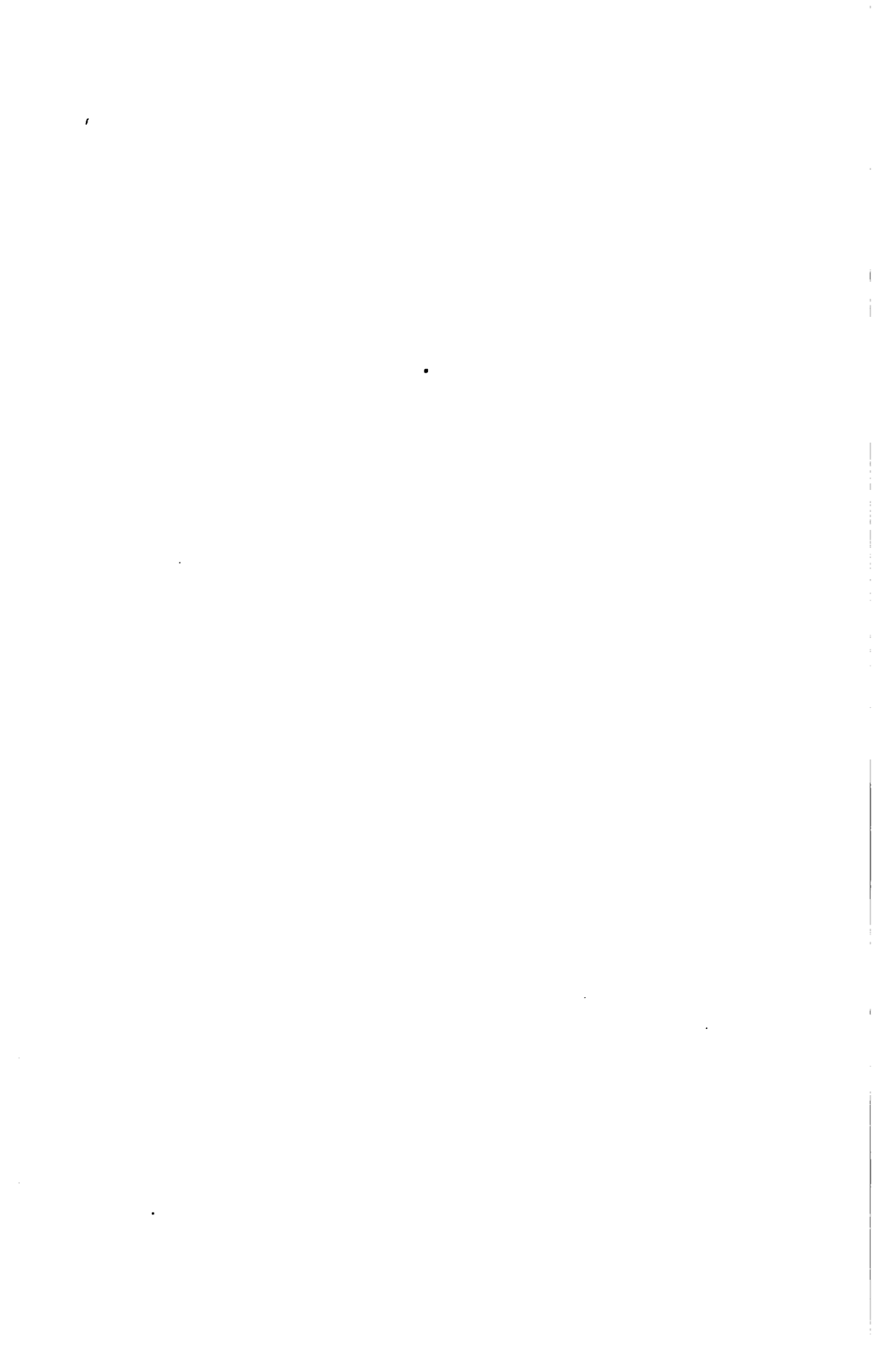
The official statistics of casings furnished by the customs authorities in 1892 were as follows:

Countries	Imports.		Exports.	
	Quantity.	Value.	Quantity.	Value.
	<i>Pounds.</i>		<i>Pounds.</i>	
United Kingdom.....	112,235	£6,844	6,832	£355
Germany	7,000	633	3,652	155
United States (east coast).....	74,303	3,533		
New South Wales.....	22,233	753	66,948	3,338
New Zealand.....	29,466	1,602	11,468	550
South Australia.....	124	21	7,146	323
Queensland.....	4,276	37	33,526	1,818
Tasmania.....	500	10	16,998	969
West Australia.....			592	25
Fiji.....			56	2
Total.....	250,137	13,433	147,218	7,535

The exports of casings to the United States during the fiscal year ended June 30, 1893, were about 46,800 pounds, valued at \$6,148.

GEO. H. WALLACE,
Consul-General.

MELBOURNE, *July 17, 1893.*



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AMERICAN FLOUR IN GERMANY.

In response to a request for further information concerning German import duties on breadstuffs, and as to how far existing conditions favor a more extended sale of American flour in the markets of this country, I hasten to report as follows:

Under the German tariff of July, 1879, amended by the act of May 22, 1885, the duty on imported wheat and rye was 3 marks per 100 kilograms (equivalent to 71 cents per 220 American pounds), and on flour of wheat or rye \$1.70 per 220 pounds. Germany has been since 1871 gradually passing from the condition of an agricultural to that of an industrial country; in other words, agriculture, which was previously the foremost interest, has been relegated to the second place, while manufactures, mining, etc., has assumed the leading position. The population meanwhile steadily increased. Even in fruitful years this country is unable to raise sufficient bread and meat for the wants of the people. There is therefore a regular annual demand for a large quantity of imported breadstuffs; and this demand is likely to increase, rather than diminish, in the future.

On the other hand, the farming lands, exhausted by centuries of tillage, require constant and liberal manuring to render them fertile; and, as wheat lands are worth from \$100 to \$300 per acre, the raising of grain is so costly that even in good seasons but little profit is left for the farmer. Under these conditions there has grown up in this country a strong agrarian party, which insists that the protective system established by Bismarck unduly favors the manufacturing classes at the expense of the farmers and landowners. It was shown several years ago that the young peasants were leaving the farms and flocking to the factories and towns or emigrating, leaving the work of the fields to be done mainly by women and boys.

The agrarian party succeeded, as long ago as 1887, in securing a revision of the import duties on cereals, and under the act of December 27

of that year, which is still in force, they were advanced to the following schedule:

	Per 220 pounds.
Wheat and rye.....	\$1.19
Oats.....	.95
Barley.....	.53
Corn.....	.47
Flour of wheat or rye.....	2.50

The duty on flour is out of all proportion to that on the unmilled grains. This was, of course, purposely arranged to favor the German millers and keep the grinding of even imported cereals at home.

The agrarian party is said to be strongly represented in the present Reichstag, which is about to assemble at Berlin, and there does not seem to be much probability that the import duties on breadstuffs or any other farm product will be reduced, although such reduction would be a grateful relief to the industrial classes, who complain bitterly of the high and steadily increasing prices of food.

No fault is found in Germany with the quality of American wheat and flour, except, perhaps, that they are too good and costly for the general trade of the country, where very little white bread of fine quality is eaten except by a limited class of foreigners and wealthy people who live mainly in cities. The great bulk of the bread consumed by the peasantry and industrial class, as well as in the army, is made of rye or of rye mixed with a low grade of wheat. The cereal principally imported is therefore not wheat, but rye, and this has been hitherto brought mainly from Russia. When in 1891 the harvests failed and Russia prohibited the export of rye, German importers turned to the United States, the only country which then had any considerable surplus; and not finding in our country sufficient rye to meet their demands, they imported wheat in enormous quantities; and the use of wheat bread, which was then cheaper than rye bread, became more general than it had ever been before.

The normal harvest of 1892 restored measurably the equilibrium of supply and demand, the large importation of Russian rye was resumed, and the people returned generally to the use of rye bread. The present situation differs materially from that of 1891. The rye and wheat crops of Germany this year were shortened by the long and severe drought, but the quality of both grains was good and the quantity greater than seemed possible when the harvest began. There is, however, a large deficit to be filled by importation, and this would have been drawn, as usual, mainly from Russia but for the disagreement about the treaty of commerce between that country and Germany, as described in my former report,* which resulted, as was therein stated, in the imposition by both countries of a retaliatory increase of 50 per cent in the existing tariff schedules on all goods exchanged between the two nations. This has the effect of increasing the duty on Russian wheat

and rye imported into Germany from 32 cents to 48 cents per bushel, giving to imports of those grains from America and other exporting countries an advantage of 16 cents per bushel over similar imports from Russia. Russian flour of rye or wheat now pays as duty \$3.75 per 220 pounds, while flour from the United States would pay but \$2.50 for the same quantity—an advantage of 25 cents per 100 kilograms, or something more than \$1 per barrel, over the Russian exporters. How much this advantage may be practically worth during the months which will elapse before another crop can be harvested will largely depend on whether the negotiations now in progress at Berlin to frame a new treaty of commerce succeed or fail. In any case, the Germans will first consume the home-grown supply of cereals; so that the heaviest importations will be made during the latter part of winter and early spring, and will be governed, as usual, by the two controlling facts already cited, viz, that the general preference of the people is for rye instead of for wheat bread and that their tariff favors the importation of unmilled grains rather than flour. When in 1891 Russia prohibited the export of wheat and rye, the German imports of American wheat rose from 1,902,775 bushels in 1890 to 23,065,795 in 1891 and 46,509,719 bushels in 1892. The imports of American rye rose from 765,833 bushels in 1890 to 4,500,000 bushels in 1892.

It would seem probable that the lower and cheaper grades of American wheat and flour might prove more salable in this country than the higher qualities. I regret that Frankfort is so far inland and so remote from the ports of Bremen, Hamburg, and Stettin that I am not able to obtain the personal views of leading importers. There are few mills and no important grain or flour markets in this vicinity; most of the flour consumed here is made from German wheat and comes from northern Germany. I shall, however, keep the subject under observation, and, if the pending treaty negotiations fail, I shall submit a more detailed study of the grain and flour markets in a supplemental report.

Meanwhile, since Germany in any case derives but little wheat or wheat flour from Russia, it would apparently be worth while that the millers' associations of the United States should be represented in the chambers of commerce at Bremen and Hamburg by capable agents provided with samples of their several products and authorized to make sales subject to the usual commercial conditions which prevail there. This last is a more important point than most American exporters are apt to realize.

FRANK H. MASON,
Consul-General.

FRANKFORT, *October 27, 1893.*

AMERICAN PRODUCTS IN SWITZERLAND.

PETROLEUM.

The most interesting and important fact touching the market for American goods in Switzerland during the year 1892 is the apparently final decision in favor of our petroleum and against the Russian article. For many years the struggle has been doubtful. It has often been maintained that the Russians would finally improve the quality of their product to such a degree that its cheaper price would have the effect of forcing the Americans from the field. But the past year has shown that these fears are groundless, the Russians having furnished only one-third of the whole quantity imported, the United States furnishing the remaining two-thirds, valued at \$820,000. And this result was obtained in spite of the fact that American oil costs \$2.01 per metric centner (220 pounds), free in tank cars from Genoa, and the Russian article only \$1.35 for the same quantity.

There has been an increase of 10 per cent in the quantity of petroleum used in Switzerland, its cheap price leading to its extensive employment for industrial purposes. According to the report of the Swiss Commercial and Industrial Association, this cheapness is the result, in the first place, of the competition between American refiners, and, in the second place, of the great concessions made by Swiss and foreign railway companies for the transportation of this article. The importance of this last element may be seen from the fact that the buyer in the Rhine Valley can receive American petroleum as cheap by way of Venice and the St. Gothard Railway as by way of Antwerp and Mannheim. The same report states that the relative cheapness of American oil has still further depressed the trade in Russian petroleum, which has never been able to obtain a firm foothold in the market on account of its decidedly inferior quality.

WHEAT AND CORN.

In the grain market the Russians were much more successful competitors, as will be seen from the following table, showing the import of wheat into Switzerland during the year 1892:

Whence imported.	Quantity.	Value.
	<i>Busheis.</i>	
Russia.....	6,936,252	\$8,891,000
United States.....	1,560,368	2,000,200
Austria.....	1,475,540	1,891,400
Danubian countries.....	1,102,497	1,413,200
European Turkey.....	80,707	103,400
France.....	45,943	58,800
Other countries.....	93,654	120,000
Total.....	11,294,961	14,478,000

Thus Russia furnished over half of all the wheat imported, while the United States, though coming second, were not much in advance of Austria.

The latter country took the first rank for imports of maize into Switzerland, the United States again taking the second place as a hardly successful rival of the Danubian countries and La Plata. The following are the details:

Whence imported.	Quantity.	Value.
	<i>Bushels.</i>	
Austria.....	568,223	\$531,800
United States.....	239,521	224,200
Danubian countries.....	201,707	188,800
La Plata.....	178,933	167,400
Italy.....	126,361	144,800
Russia.....	65,266	61,000
Other countries.....	46,059	43,400
Total.....	1,426,070	1,362,400

Of grain, hulled or in the form of grits, semoule, etc., of which a considerable quantity is imported, the United States are an important source of supply, but again in the second rank, France here taking the first place, as follows:

Whence imported.	Quantity.	Value.
	<i>Bushels.</i>	
France.....	358,695	\$655,400
United States.....	34,661	63,400
Germany.....	29,711	54,200
Austria.....	21,047	38,200
Other countries.....	18,891	34,600
Total.....	463,005	845,800

COTTON AND TOBACCO.

The cotton import into Switzerland in 1892 was as follows:

Whence imported.	Quantity.	Value.
	<i>Pounds.</i>	
United States.....	27,436,200	\$2,918,000
Egypt.....	23,024,980	2,658,200
Other countries.....	2,691,040	255,600
Total.....	53,152,220	5,831,800

Here the United States hold the first place; but for Swiss manufacturers the Egyptian cotton is becoming more and more important.

As a source of supply for raw tobacco America leads all other countries, as shown by the following table of imports for 1892:

Whence imported.	Quantity.	Value.
	<i>Pounds.</i>	
United States.....	6,382,420	\$638,200
Dutch Indies.....	1,214,180	265,000
Brazil.....	1,222,320	183,600
Central America.....	391,600	92,600
Other countries.....	934,700	87,400
Total.....	10,145,220	1,266,800

The Swiss commercial report already quoted says that Rio Grande wrappers were formerly very much used by Swiss cigar manufacturers. As, however, the quantity of this material became insufficient and its price materially increased, its use in recent years has diminished, and Java and Kentucky wrappers have taken its place. Kentucky tobacco has been for a long time a favorite article with Swiss manufacturers. Its uncommonly cheap price in recent years was the further occasion of its employment in large quantities. But the price both for wrappers and fillers increased considerably during the year 1892, and it is now predicted that, in consequence of this higher price, other kinds of tobacco will in part take the place of the Kentucky article.

LEATHER.

The following table shows the quantity and value of the sole leather imported into Switzerland in 1892:

Whence imported.	Quantity.	Value.
	<i>Pounds.</i>	
United States.....	924,880	\$176,700
France.....	377,740	130,400
England.....	444,180	86,000
Belgium.....	219,560	63,800
Germany.....	204,820	52,200
Other countries.....	121,220	28,400
Total.....	2,292,400	\$537,500

GEORGE GIFFORD,

Consul.

Basle, October 6, 1893.

NEW TABLE OILS IN GERMANY.

On account of the great expense and difficulty in procuring pure olive oil for table purposes there have been many attempts made in Germany to produce from other substances than the olive an oil which, having all the qualities that recommend the olive oil, could be sold at a lower price.

In southern Germany for some years past oil has been produced from the beechnut. It has given great satisfaction, but has not come into general use because the production has been small and the oil has never been pushed on the market. One reason why more has not been done in the production of this beechnut oil has been the great scarcity of the nut in certain years.

The beechnut contains but 22.77 per cent of oil, but when the nuts are plentiful, the ease with which they can be gathered, the fact that there is absolutely no other expense except the pressing, and the good prices that have been received for the oil have made the production of the oil very profitable.

It is only of late that the seeds of the linden tree have been used for the production of oil. According to the report of Dr. C. Müller to the German Botanical Society, this oil has a number of excellent qualities, which would appear to make it certain that the linden seed will hereafter be considered one of the principal sources for obtaining table oil. The linden tree is a regular bearer, so that a large quantity of seed may be counted upon each autumn. The percentage of oil in the linden seed is given at 58. It is maintained that the oil has a peculiarly fine flavor—free from all bitter or aromatic taste—and that it has the appearance of olive oil. It belongs also to the oils which do not evaporate.

Oil made from linden seed will never become rancid. It has no tendency to oxygenate. It will stand a great degree of cold without freezing. Dr. Müller has exposed it to 3° F. below zero without being able to notice any change.

ALFRED C. JOHNSON,

Consul.

STUTTGART, *September 29, 1893.*

AMERICAN FLOUR IN GIBRALTAR.

DEPRESSED TRADE.

A considerable falling off has occurred in the number of steamships calling at this port during the past twelve months, due in a measure to the continuation of quarantines caused by the appearance of cholera in many parts of Europe and in the Levant; also to the utterly demoralized financial condition of exchanges throughout the Old and New worlds, which has curtailed their general freighting business.

The coal strikes in England have also contributed in depressing steamship interests and the coal trade. The prices of coal have, however, somewhat receded of late. At present there is a sufficient supply of coal on hand to meet all demands.

AMERICAN FLOUR.

Regarding the products of the United States usually imported direct to this market, flour (chiefly packed in bags) seems to be at present the pre-

ponderating one, owing to its cheapness in the United States. That which has reached this port direct from New York, of the kinds suited for local demands, as well as for supplying the neighboring Spanish towns and the Morocco ports, has so far met with very ready sale. There is also every probability of this demand for American flour continuing during the winter months, owing to the unfavorable result of this year's cereal crops in Spain, in addition to the injury caused by inundations and destructive fires.

The demoralized condition of financial affairs already referred to materially interferes, however, with any large profit in flour, since importers are prevented from working on a sure and safe basis so long as such serious fluctuations of the currency continue. Still, in the absence of anything better offering in the general traffic between this market and the United States, they are disposed to continue their operations in flour while prices in the United States rule at sufficiently low figures to admit of their underselling any importations that may reach this market from England, France, or other foreign countries.

DRY DOCK.

The subject of establishing a dry dock and stores for the storing of coal has lately been received by the British public apparently with some prospects for such an important and costly undertaking being finally carried out; in fact, a civil lord of the British admiralty and a financial secretary to the war office have within the past few days arrived here from England, and it is surmised that their visit is connected with this project.

HORATIO J. SPRAGUE,

Consul.

GIBRALTAR, *October 2, 1893.*

SHEFFIELD TRADE WITH THE UNITED STATES—1893.

The total declared value of exports to the United States from this district during the year ended September 30, 1893, amounted to \$2,194,314.82, which shows a falling off of \$156,159.92 as compared with the corresponding period of last year. The decrease is found chiefly in unmanufactured steel (\$79,351.17), cutlery (\$36,080.10), and salted skins (\$31,701.73).

The following is a statement of the total value of exports for the four quarters of the years ended September 30, 1892 and 1893:

Quarter ended—	1892.	1893.
December 31.....	\$650,892.66	\$710,211.24
March 31.....	507,856.71	559,909.25
June 30.....	595,794.37	561,387.74
September 30.....	595,931.00	362,806.59
Total.....	2,350,474.74	2,194,314.82

It will be seen from these figures that the first and second quarters of the year 1893 show a decided improvement in trade, the third a slight falling off, and the fourth a decrease of \$233,124.41, which more than accounts for the decrease of the year. The immediate cause is the dispute in the coal trade of Great Britain. The dispute has already lasted ten weeks and is still unsettled. It has been the means of shutting down at least two-thirds of the steel, cutlery, and similar manufacturing establishments in this district. Prices of ordinary steam coal have risen from \$1.76 per ton at the pits to as high as \$6, though at present they are somewhat lower, due to the importation of coal from the Continent and to the resumption of work at some few pits where the owners have agreed to take back their men at the rate of wages ruling at the commencement of the strike. Fuel has been scarce, and at the present time there is little to be obtained, except at very exorbitant prices.

The contest between the owners and men has been very bitter, and in several districts has led to serious rioting and some bloodshed. As both colliery owners and miners are determined, it is impossible to judge how long the strike will continue. Every effort, however, is being made by leading public men to bring about a speedy termination. There is widespread distress, not only in the mining districts, but among employes generally.

Some idea of the disastrous effects of the struggle may be had from the fact that the exports of coal from local and neighboring collieries to the Continent through the port of Hull alone during the month of September, 1893, decreased from 174,816 tons in 1892 to 42,992 tons.

The following figures, taken from the Sheffield and Rotherham Independent of October 12 last, show the falling off in the freight returns for fourteen weeks ending October 8, as compared with the same period in 1892, of the Midland Railway Company and the Manchester, Sheffield, and Lincolnshire Railway Company systems:

Company.	1892.	1893.	Decrease.
Midland Railway Company.....	\$12,717,921.30	\$10,130,252.40	\$2,587,668.90
Manchester, Sheffield, and Lincolnshire Railway Company.....	3,007,672.20	2,323,374.16	684,298.04

The Morning Post of October 10 says in an editorial:

It is too soon yet to attempt to calculate the actual cost of the strike to the country. We have no certainty that the struggle is at an end, although we may hope that this is the case, and we must feel that either side which refuses terms of reconciliation will incur a very grave responsibility. At any rate, it may be said that neither £20,000,000 [\$97,330,000], nor probably £30,000,000 [\$145,995,000], will cover the national loss; and we may fairly ask how long a struggle involving such grave issues is to be allowed to continue.

The prospective alteration in the McKinley tariff has had the effect of curtailing the volume of business with the United States, as buyers are ordering in quantities sufficient to supply immediate demands only. Trade

has also been adversely affected by the financial situation, which has prevented the placing of many orders, as well as deferred the filling of orders previously given.

The prices of shares, bonds, and securities generally of local companies have shown little depreciation.

Though trade in Sheffield is bad, yet there is a feeling that as the supply of goods on hand in the United States is low, with the settlement of the coal dispute, the restoration of confidence in financial affairs, and decisive action on the tariff question, trade will improve and be better than for some years past.

Exports to the United States for the year ended September 30, 1893.

Articles.	Value.	Articles.	Value.
Animals for breeding.....	\$4,097.60	Musical instruments.....	\$1,142.71
Anvils.....	5,568.85	Needles and pins (steel).....	1,893.19
Button cloths.....	1,867.86	Optical goods.....	812.47
Companions, ladies'.....	807.02	Pearl, manufactures of.....	15,818.69
Copper.....	541.24	Raddle.....	1,075.74
Cotton goods.....	569.71	Salted skins.....	50,054.87
Cutlery.....	593,013.88	Scythes and sickles.....	7,454.94
Dead oil in drums.....	3,230.00	Scythe stones.....	451.67
Doctors' composition.....	246.36	Sheep dip.....	11,812.37
Down quilts and pillows.....	1,052.21	Steel:	
Edge and other tools.....	20,169.50	Wire, bars, sheets, etc.....	1,200,947.28
Ferrochrome.....	882.36	Boiler tubes.....	27,637.65
Fiber.....	1,574.28	Cylinders.....	2,525.71
Files.....	11,622.11	Forgings.....	384.85
German-silver goods.....	712.01	Shells.....	38,544.02
Glue.....	65,118.75	Vises.....	4,801.20
Graining combs (steel).....	1,704.42	Wheels.....	456.43
Grindstones.....	954.33	Umbrella ribs.....	2,401.10
Horns and horn pieces.....	9,720.74	Watches and chains (toy).....	1,315.07
Horn, manufactures of.....	17,351.39	Wines and spirits.....	1,738.85
Iron shafting.....	3,357.89	Wooden ware.....	643.40
Linens.....	21,678.05	Sundries.....	2,451.45
Machinery.....	6,555.40	Total.....	2,194,314.82
Magnets.....	393.50		
Measures.....	38,160.70		

BEN. R. BEDLE,

Consul.

SHEFFIELD, *October 13, 1893.*

POPULATION OF SCOTLAND.

The population of Scotland in 1881 was 3,735,573. In 1891 it consisted of 4,025,647, namely, 1,942,717 males and 2,082,930 females. The increase during the ten years was 290,074, a rate which is nearly the lowest on record.

The tide of life flows with uniformity in the rural districts, while the large towns absorb more and more the bulk of people of both sexes.

There was a steady increase in the number of male and female workers. In 1881 there were 43.02 per cent of the population engaged in labor of

various kinds, while in 1891 that percentage was 44.14. The advance is well distributed among the various forms of labor, only that fewer men were employed in domestic service and fewer women in agriculture. Women have been pushing men out of the natural sphere of female work.

The number of women engaged in commercial work increased from 5,383 in 1881 to 10,276 in 1891. The employment of female clerks in the offices of lawyers, engineers, and surveyors and in the Government service shows a continuous increase. In the professions there was also an increase in the number of women engaged during the decade, namely, from 30,604 to 35,787. More than 800 women find employment in the clerical profession, and nearly 4,000 in the practice of medicine.

In 1881 it was found that 675,964 males and 256,689 females earned their livelihood in some of the trades; in 1891 the figures were 742,036 males and 290,368 females. Besides these there were 478,352 males and 266,256 females with no trades or special occupations, but nevertheless engaged at some work.

After enumerating the workers, the registrar gives statistics of the non-producers. These he states to consist of 722,329 males and 1,526,306 females, or 55 per cent of the total population. In this class are reckoned the children and scholars, namely 673,924 males and 671,332 females. The remainder—48,405 males and 864,974 females—are described as “persons of rank, or of no occupation.”

F. H. UNDERWOOD,

Consul.

LEITH, *September 26, 1893.*

AMERICAN MANUFACTURERS AT FAULT.

The leading dealer in hardware in Mayence, on whom I called when about preparing my report on packing goods for export, says that he obtains such American articles as he handles from the Hamburg agents of New York export houses, though he has from time to time made direct importations. With respect to the manner in which his goods have always been packed, he has no criticisms to make; but he is very severe in his remarks on the manner in which American manufacturers do business with foreigners. He claims that he has time and time again made efforts to deal directly with American manufacturers, with a view to introducing their goods here; but they turn his letters over to exporting houses—not specialists, but dealing in all kinds of goods—and with such people he does not want to have anything to do. When he writes to a manufacturer and receives his reply through an exporting house, he simply throws the letter into his wastebasket, without paying any attention to it. What he wants is direct dealing with the manufacturer. The method of business complained of, he claims, works injury to American

trade, and is not a course which should be pursued toward such a highly developed industrial and commercial state as Germany. American manufacturers of iron goods and agricultural implements should, he says, if they want to do business in Germany, establish an agency in Germany and put a thoroughgoing, reliable man in charge of it, and not leave the introduction and sale of their articles to men who handle a most heterogeneous assortment of goods. Only first-class goods should be sent over. He alleges that agricultural implements from the United States have been very much discredited in the past by inferior goods (imitations) being placed on the German market, and he intimated that the genuine articles, on account of their price, have not much show beside the counterfeits.

JAMES H. SMITH,
Commercial Agent.

MAYENCE, *September 20, 1893.*

AMERICAN, EGYPTIAN, AND INDIAN COTTON-BALING.

Through the kindness and courtesy of the largest spinning concern in Chemnitz I can give the Department definite and very desirable information, backed up by photographs.

The packing of American raw cotton causes a deal of anxiety and complaint here. The jute-cloth covering is so torn before the bales reach Chemnitz that the cotton is exposed to mud, water, fire, and theft. Of the original six or eight iron bands two, three, four, and sometimes more are loose or broken; the cotton bulges out, takes up dirt and dust when in a dry place, mud in the docks, sea water when in the ships, and rain water when on land, on wharves, or in transmission by boat, rail, or wagon. In transport every gust of wind tears away pieces of the valuable commodity. The wharves, custom-house floors, and freight cars are usually covered with pieces torn or dropped from such bales; and the danger from fire is great, for cotton ignites easily, and sparks from cigars or locomotives, fanned by winds, even those caused by the movement of a train or wagon, could cause not only the burning of the cotton, but of other valuable property.

Contrasted with the packing of Egyptian and Indian cotton, the American must be regarded as very bad. Both Egyptian and Indian have close, compact, tough coverings, are rather long and smooth, leave little or none of the cotton exposed, are easily and plainly marked, and are wrapped close and bound strong and tight. Along the sides the firm's or seller's name appears. On both ends the kind of cotton is indicated to aid in identification should one end be torn off in handling, as sometimes happens. Thus, in the case of Indian and Egyptian cotton, mixing of bales and bales without marks seldom if ever occur; on the other hand, with American cotton both happen very frequently—too frequently, hence the complaint.

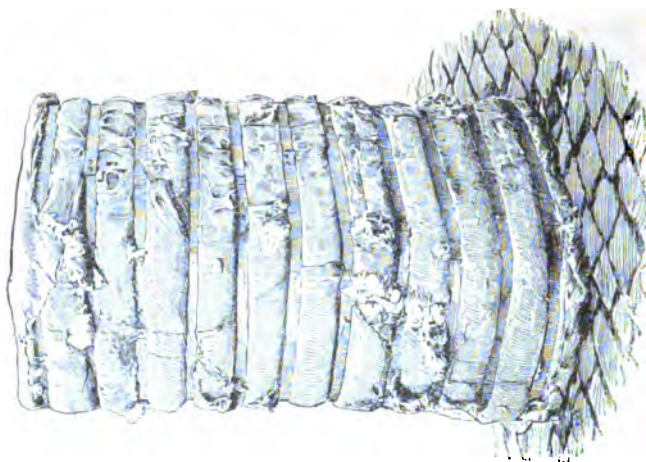
The Indian and Egyptian bales are so tightly pressed, so well covered and bound, that injury from fire, water, dirt, dust, etc., is minimized. Take this table as to space occupied by the different bales:

Bales of cotton.	Weight.	Space occupied.
	<i>Pounds.</i>	<i>Cubic feet.</i>
Egyptian.....	700	15
Indian.....	400	10
American.....	475	22

The Lloyd's, who can pack into their vessels' holds 16,000 to 18,000 bales of Indian cotton, can take only 6,000 to 10,000 American, when, according to the ratio of weights (4 to $4\frac{3}{4}$), they should take in 14,000 bales. Consider this in the figuring of expenses, where \$3, \$4, \$5, etc., are paid per cubic yard for ocean freights. What appears here in the matter of ships holds equally good in relation to transport wagons, room taken up in freight houses, magazines, and storehouses, etc., all of which add to the expenses. I am informed that producers, as well as manufacturers, have to pay "enormous sums" for these "unnecessary" expenses. Besides, the American planters waste large quantities of unnecessary packing material. The losses by dirt, dust, mud, bursting of the bales, by stealing, etc., affect the producer and manufacturer in about the same ratio.

The increased danger of fire increases the premiums on fire insurance policies. The mixing of the bales and the "no mark bales" cause no end of confusion. More secure packing, a much closer pressing, and greater care in covering or wrapping up, would be of inestimable and permanent benefit to the cotton trade of the United States.

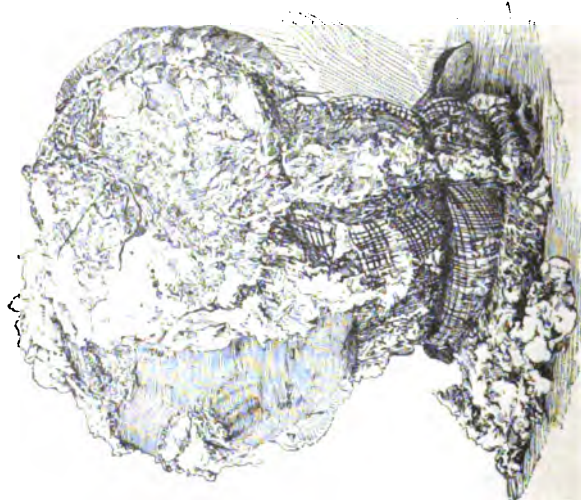
Planters formerly entertained a fear that the enormous pressure used in India would injure the fine fibers of the American cotton, would make more difficult the processes of cleaning, and would cause the formation of small knots which would injure the carding machinery, but such belief has disappeared. The fact that Egyptian cotton, with as fine or finer and longer fiber, has stood greater pressure satisfies everybody interested that the time has come for a reform in American methods of packing. Of course, great care is to be taken before packing to see that the cotton is perfectly dry; otherwise internal fermentation will create "cakes," resulting in the same danger to the carding machinery as that caused by the little knots described above. Egypt and India have small fear of these dangers, because of their particularly dry climate, especially during the packing and shipping season.



EGYPTIAN BALE, 700 POUNDS.



INDIAN BALE, 400 POUNDS.



AMERICAN BALE, 500 POUNDS.

The photographs of these bales of cotton as they reached the spinning mill at Chemnitz tell their own story more graphically than words can tell it.

J. C. MONAGHAN,

Consul.

CHEMNITZ, *October 14, 1893.*

AMERICAN PRODUCTS IN LEITH—1893.*

BUTTER.

The trade in American butter was very light in comparison with former seasons. The price was relatively too high, and, besides, dealers here have a prejudice against New York creamery butter, because it has frequently developed an oily flavor and importers have lost upon their shipments. A little trade was done in ladle-packed butter, but not of any great importance.

CHEESE.

The principal feature in this market has been the total collapse of the demand for medium and low grades of American cheese. This has resulted, directly or indirectly, from the prosecutions against retailers for selling "filled" or adulterated cheese without informing the purchaser that it was a mixture. For that reason the medium grades, even when guaranteed to be genuine, have been looked upon with such suspicion as to make them practically unsalable, and the owners have sustained heavy losses. Owing to the high price at Chicago during the year, several large parcels of Wisconsin cheese were shipped from here to that port at a profit. The quality of shipments from the United States has been well maintained, but it is excelled by the best products from Canadian factories, especially in keeping quality.

HAMS AND BACON.

In these articles the market has been somewhat irregular. The season opened with very high prices, which for many months curtailed the demand in this market. The British workman, who is a large consumer of American pork, will not pay more for any one article if he can get another cheaper; and during the spring and summer the price of mutton was very low. This, combined with low prices for bread, butter, and fish, reduced the consumption of hams and bacon. As the summer advanced the easier prices for American pork stimulated a demand which has continued to the present time under fairly good rates, though yielding only small margins to the importers.

Since last summer the prices of bacon advanced, while the prices of hams have declined. Bacon is about 5s. dearer than hams, while usually it is from 5s. to 20s. (\$1.22 to \$4.86) cheaper. This, however, has not much

* This is an extract from the consul's annual report, which will appear in full in "Commercial Relations," 1893.

effect upon our market, for the consumption of American bacon is small here, as it has been superseded by shoulders, which are excellent and, moreover, lean. The Scottish consumer likes a lean article. On the whole, the quality has been satisfactory, especially in regard to shoulders, which seem to be receiving more careful attention in cutting and curing than in former years.

SHIPPING.

During the year ended September 30, 1893, there had arrived at this port thirty steamers of the Arrow line from New York with cargoes of from 3,000 to 4,000 tons each. The principal articles carried were wheat, maize, and flour. Among other goods brought were paraffin scale (mostly reshipped to Aberdeen), lard, cheese, tobacco, glucose, timber, and hardware. During the summer there were several large shipments of reaping machines, which is a new import into Leith.

There have in the same period arrived from Baltimore twelve steamers of the Empire line, bringing cargoes of similar size to those from New York. The cargoes consisted chiefly of wheat, maize, and flour; and much larger quantities of timber than by the other line. Freights to the seaboard were probably lower. Sometimes as much as 400 tons were brought by one ship.

A new line—the Furness line—has just begun running from Newport News and Norfolk to this port. The first steamer of this line—the *River Garry*—arrived here September 12 with a cargo consisting of 1,000 tons of flour and 200 tons of tobacco. The shipment of tobacco seems to come naturally from ports near where it is grown. It may be added that 350 tons of tobacco came by the second steamer of this line, which arrived here October 8. These are small steamers, but, as trade increases, larger steamers will be provided.

F. H. UNDERWOOD,
Consul.

LEITH (EDINBURGH), *October 28, 1893.*

GERMANY'S TOBACCO TAX.

Germany just now is very much in earnest trying to devise the best means to raise a maximum of revenue with a minimum of friction and discontent. Brandy, wine, and tobacco are talked about as the best things to tax to raise the required revenues. The agents of the Government are busy preparing a measure to tax tobacco, with a view to its discussion and acceptance.

On this question the nation is divided into two parties—those who regard tobacco as a luxury and those who look upon it as a necessity. The former are for taxing it, the latter for letting it alone. The parties are also further divided on the question whether the new tax will affect consumption. “In other lands by no means so prosperous as ours,” say advocates of the tax on cigars, snuff, and tobacco, “increased taxes did not reduce consump-

tion." Opponents of the tax say that the highest point probable in consumption has been reached, and that any increase in tax is sure to be followed by a reduction of the amount consumed. Besides, as 90 per cent of all the cigars smoked in the Empire are "1-centers," the poor man must pay the increase. It is still further claimed that a reduction of 50 per cent will immediately follow the passage of the tax bill and the reduction later will remain at 33 per cent. No proofs have been adduced to support these figures.

The French, who are by no means such smokers as the Germans, collected last year \$75,000,000 from tobacco.

Germany consumes yearly \$68,306,000 worth of tobacco, from which she raises in revenue, internal and imports, \$11,900,000. There are 6,000 tobacco concerns, employing 161,000 persons, who receive in wages \$14,994,000. Ninety per cent of the cigars made sell for 1 cent or $1\frac{1}{3}$ cents each. In 1878, with a population of 43,000,000, Germany used \$55,930,000 worth of tobacco, foreign and domestic—\$1.30 per capita; to-day 50,000,000 consume \$68,306,000, or \$1.34 per capita. Thus in fifteen years the increase per capita was only 4 cents—a trifle more than a farthing, or one-fourth of a cent per year. Of the revenue now raised, the sum of \$2,618,000 comes from internal revenue taxes and \$9,282,000 from import duties on foreign tobacco. In 1879, because of the increased tax, the consumption fell off 5 to 6 per cent; but the increase of revenue (\$8,330,000) more than made up for the loss. To get the \$11,900,000 increase now desired and calculated to arise from the new tax, a falling off in consumption of from 12 to 15 per cent is expected.

If the tax as projected becomes a law—and just now it looks as if, in spite of all opposition, it might pass—it is proposed to take off the internal revenue tax and to keep the import duties about where they are. Some say that the final outcome will be the monopolization of the whole trade by the State.

The farmers and their friends, fearful lest the tax be taken out of their own pockets, are at work advocating a tax on the manufactured articles. They seek to so place it that the manufacturer will be powerless to come back to them for reimbursement. They know very well that their share of the tax, if measured by their consumption, will be very small. They smoke, not cigars, but pipes. To help them it is still further proposed to keep down the tax on smoking tobacco. Besides, the advocates of the new bill favor the wiping out of the present system of taxing by weight and urge ad valorem duties, inland and foreign. Now the cheapest tobacco and cigars are taxed equally with the dearest, the poor man paying as much—or even more, since bad cigars are heavier than good ones—on his 1-cent cigar as does the rich man who smokes one or two at 25 cents.

The revenues must be increased. The patriotism that in time of peace will pay taxes willingly has not yet appeared. Imperial outlays must be met and covered by imperial incomes, regular, certain, and sufficient. To depend upon the separate states, kingdoms, and duchies to make up, when needed, by special increase in contribution, is too precarious, too uncertain,

and too dangerous. A tax on tobacco, as proposed, on the manufactured articles, distributes the tax evenly all over the Empire. It avoids the danger of special injury to those states or sections where the tobacco is grown. It comes as near being equitable as taxes can be made; it is conceived in a spirit of justice and fairness and is the result of long, honest, and careful consideration.

Number of acres planted with tobacco, yield, etc., in the Empire.

Years.	Number of planters.	Superficial area planted.		Yield in dry tobacco leaves.		Gross money receipts or worth after deducting tax.		Average price, including tax, for a ton of dry tobacco leaves.
		Total.	Average to each planter.	Total.	Average to each acre.	Total.	Average to each acre.	
		<i>Acres.</i>	<i>Roods.</i>	<i>Tons.</i>	<i>Tons.</i>			
1872-'73.....	200,829	65,463.03	1.303	49,657	0.684	\$6,719,216	\$102.67	\$150.24
1873-'74.....	214,267	75,372.33	1.406	59,490	0.708	5,128,900	68.09	94.98
1874-'75.....	183,555	55,491.98	1.208	46,357	0.748	4,801,888	86.48	105.77
1875-'76.....	191,896	60,038.1	1.251	41,771	0.624	3,522,400	58.63	92.82
1876-'77.....	174,591	53,710.3	1.23	34,877	0.584	2,758,896	51.33	88.56
1877-'78.....	165,273	44,270.53	1.07	32,856	0.668	3,157,546	71.36	104.25
1878-'79.....	157,175	44,720.12	1.032	32,884	0.664	3,222,758	72.42	106.42
1879-'80.....	159,061	42,684.06	1.071	31,256	0.656	4,819,024	112.87	162.74
1880-'81.....	221,010	59,947.46	1.084	57,429	0.86	6,867,966	114.61	153.05
1881-'82.....	246,639	67,333.71	1.091	67,460	0.9	6,458,844	95.92	145.92
1882-'83.....	215,250	54,973.64	1.018	42,882	0.7	3,909,864	71.17	168.16
1883-'84.....	202,862	54,534.19	1.074	42,926	0.708	4,017,916	73.68	170.53
1884-'85.....	187,582	52,118.88	1.109	51,923	0.896	4,135,964	93.60	156.56
1885-'86.....	175,192	48,258.95	1.101	42,411	0.788	3,665,914	75.98	163.19
1886-'87.....	176,715	49,039.89	1.108	42,452	0.776	3,918,432	94.27	169.02
1887-'88.....	180,074	53,045.88	1.177	44,962	0.76	3,259,172	61.41	149.38
1888-'89.....	168,366	44,559.65	1.056	28,999	0.584	2,746,758	61.61	171.60
1889-'90.....	163,351	42,990.47	1.05	42,956	0.896	4,295,424	99.87	176.79
1890-'91.....	180,206	48,924.57	1.101	46,620	0.844	4,049,838	95.82	163.29
1891-'92.....	162,738	45,797.7	1.124	38,257	0.752	3,207,526	70.02	160.82

Imports of tobacco.

Year.	Quantity.	Value.
	<i>Tons.</i>	
1883.....	30,157	\$10,285,640
1884.....	33,962	11,730,306
1885.....	38,062	13,146,644
1886.....	39,302	12,726,336
1887.....	42,646	15,189,874
1888.....	43,102	13,556,796
1889.....	45,497	16,730,686
1890.....	48,766	18,459,994
1891.....	50,936	17,849,762
1892.....	51,330	14,989,710

J. C. MONAGHAN,
Consul.

CHEMNITZ, September 6, 1893.

GERMANY'S TRADE WITH THE UNITED STATES.

The reports of the Chemnitz Chamber of Commerce of last year and this year lay particular stress upon the importance of American trade. Fully two-thirds of the introductory remarks in each year are devoted to a consideration of Germany's and Chemnitz's business relations with the United States.

The exports for 1892 from this consular district to the United States were \$6,782,254; for 1891 they were \$7,028,791; but the exports for 1891 included those from Glauchau also, then a consular agency of Chemnitz, but now an independent commercial agency. Glauchau sent last year \$1,900,644, which, added to Chemnitz's export for the same period, brings the latter up to \$8,682,898. Hence in 1892 Chemnitz sent us \$1,650,000 more goods than in 1891. But prior to 1891 the exports were larger still; in 1890, \$10,950,000; in 1889, \$9,900,000; in 1888, \$8,760,000; in 1887, \$10,160,000. In these years, of course, Glauchau is included. The report says:

The present rates of duty prevailing now and for some time past in the United States are unfavorable, when not disastrous, to the hosiery, underwear, and knit-glove trade of this district. The hope is cherished and expressed that some change may soon take place resulting in better reciprocal relations and profitable to both peoples. The United States has always been too important a customer of Chemnitz and Germany to be neglected. No earnest effort that can be made to keep on good terms with this big buyer and fertile producer should be neglected or left untried. When business is bad it is wise to seek the causes, and, having found them, to use every effort to have them removed.

Germany sends to the United States the finished products of her factories, taking in exchange raw material or half-manufactured articles—corn, cotton, meat, wheat, petroleum, etc.

The differences in climate, territorial possessions, and in developed industries make this not only possible, but profitable, to both. In the production of foods and raw material for manufactures Germany can not compete with us; in the matter of many manufactured articles the United States can not for many reasons, most important of which is Germany's wonderful system of industrial and technical schools, keep up a healthy competition with Germany.

Here is a most interesting economic problem: How necessary to German financial success, to permanency and profit in her foreign commerce and progress, are American cotton, corn, meat, and petroleum?

Of cotton, according to the latest returns, Germany bought in the United States 702,342 bales, each bale weighing 475 pounds; in Egypt, 134,627 bales of 700 pounds each; in India, 378,275 bales of 400 pounds each. Of the 333,612,450 pounds bought in the United States the loss in spinning was estimated at 10 per cent, leaving 300,251,205 pounds of yarn;

of the 94,238,900 pounds bought from Egypt 8 per cent was put down to waste, leaving 86,699,788 pounds of yarn; of the 151,310,000 pounds bought from India 20 per cent was waste or loss in spinning, leaving 121,048,000 pounds of yarn. Manufacturers assign as a reason for the purchase of Egyptian cotton the demand in the United States for hosiery, knit goods, and underwear made from it. The people of no country, they say, are so particular or insist more on getting Egyptian cotton goods. Its rich color and silky gloss give it the preference.

The German writer from whom I have been quoting quite freely dismisses wheat with a line by saying, "America is a principal source of supply for Germany."

It would have been well to give figures for comparison. It is no great task in Germany, the home of statistics, to get such figures. To have any value reports should supply not only statements of fact, but comparative tables. In this way business men and economists can compare and draw their own conclusions. Here is a table showing Germany's imports and exports for the year 1891, the last year for which figures are now attainable:

Imports and exports in 1891.

Countries.	Imports.		Exports.	
	Amount.	Per cent.	Amount.	Per cent.
	<i>Marks.*</i>		<i>Marks.*</i>	
Great Britain.....	676,810,000	15.4	696,066,000	20.8
Austria-Hungary.....	598,859,000	13.6	347,809,000	10.4
Russia.....	580,396,000	13.2	262,605,000	7.9
United States.....	456,524,000	10.4	357,823,000	10.7
Netherlands.....	282,116,000	6.4	268,404,000	8
France.....	261,818,000	5.9	237,998,000	7.1
Belgium.....	251,789,000	5.7	153,315,000	4.6
British India.....	157,001,000	3.6	33,094,000	1
Brazil.....	154,609,000	3.5	55,500,000	1.7
Switzerland.....	144,895,000	3.3	184,616,000	5.5
Italy.....	134,143,000	3	88,654,000	2.7
Argentine Republic.....	109,632,000	2.5	18,598,000	0.6
Chile.....	76,689,000	1.7	19,693,000	0.6
Denmark.....	75,404,000	1.7	73,458,000	2.2
Sweden.....	52,154,000	1.2	73,531,000	2.2
Roumania.....	29,305,000	0.7	55,027,000	1.6
All other countries.....	361,260,000	8.2	413,564,000	12.4
Total.....	4,403,404,000	100	3,339,755,000	100

* 1 mark=23.8 cents.

From Russia Germany bought \$138,134,248 worth of goods—13.2 per cent of all her imports. To Russia she sent \$62,500,228 worth—only 7.9 per cent of her exports. In getting grain (her millers and bakers admit that ours is by all odds the best) she bought from Russia in the last three years (1890-'92) 41,846,009 bushels; from us during the same period, 30,222,101 bushels.

Imports of grain.

Countries.	1890.	1891.	1892.
	<i>Bushels.</i>	<i>Bushels.</i>	<i>Bushels.</i>
Argentine Republic and Patagonia.....	274,813	453,722	2,421,818
Australia.....	7,309	97,700	31,889
Austria-Hungary.....	4,069,301	2,750,779	1,671,631
Belgium.....	677,945	1,380,405	915,603
British India.....	34,330	882,319	1,863,236
British North America.....		46,427	428,915
Brazil.....	33,703	49,303	5,541
Bulgaria.....	119,758	43,063	1,298,200
Chile.....	7	272,995	477,395
Netherlands.....	770,107	1,015,254	325,513
Roumania.....	2,261,869	1,568,416	3,359,331
Russia.....	13,572,103	18,856,759	9,417,147
Servia.....	375,797	242,668	495,527
Turkey.....	14,676	88,670	732,178
United States.....	1,902,775	5,253,531	23,065,795
All other countries.....	128,204	131,313	.....

It is to be observed that Germany bought from us 1,902,775 bushels in 1890 and from Russia 13,572,103 bushels, and in 1892 from us 23,065,795 bushels and from Russia 9,417,147 bushels—from us ten times the amount of two years previous and from Russia less than one-half of the year before. I present tables of the last ten or twelve years, showing our trade with Great Britain, France, and Germany:

Trade with the United States.

Year.	Great Britain.		France.		Germany.	
	Exports to United States.	Imports from United States.	Exports to United States.	Imports from United States.	Exports to United States.	Imports from United States.
1880.....	\$210,613,694	\$450,994,000	\$69,344,000	\$98,889,000	\$52,211,000	\$56,290,000
1881.....	174,494,000	477,451,000	69,816,000	89,894,000	52,989,000	68,859,000
1882.....	195,589,000	404,248,000	88,898,000	47,402,000	56,369,000	52,790,000
1883.....	188,623,000	420,433,000	97,989,000	55,965,000	57,378,000	64,340,000
1884.....	162,550,000	382,717,000	70,842,000	49,291,000	65,019,000	59,251,000
1885.....	136,702,000	394,926,000	56,935,000	44,562,000	63,242,000	60,819,000
1886.....	154,254,000	344,928,000	63,417,000	40,006,000	69,155,000	60,924,000
1887.....	165,067,000	303,101,000	68,108,000	55,682,000	80,648,000	57,317,000
1888.....	177,897,975	358,239,000	71,365,000	37,784,000	78,422,000	55,621,000
1889.....	178,269,067	379,990,000	69,567,000	45,111,000	81,743,000	66,569,000
1890.....	.....	.....	.....	.....	99,174,600	96,532,800
1891.....	.....	.....	.....	.....	85,161,874	108,652,712

The following table shows how many hogs Germany imported during twelve years and their value :

Year.	Number.	Value.
1881.....	1,167,945	\$23,627,450
1882.....	1,039,136	23,989,448
1883.....	926,502	22,050,748
1884.....	799,207	18,019,127
1885.....	545,633	12,466,678
1886.....	568,570	12,855,332
1887.....	382,966	10,390,604
1888.....	291,799	8,472,562
1889.....	327,649	9,227,022
1890.....	596,811	17,894,744
1891.....	738,599	17,135,048
1892.....	861,253	23,329,474

The 861,253 hogs she bought in 1892 came from the following countries :

Countries.	Number.	Countries.	Number.
Belgium.....	15,455	Austria-Hungary.....	337,916
Denmark.....	187,872	Russia.....	68,887
France.....	80,758	Switzerland.....	2,456
Great Britain.....	421	Brazil.....	1
Italy.....	13,497	United States.....	9
Holland.....	152,433	Australia.....	1
Norway and Sweden.....	1,381	All other countries.....	266

J. C. MONAGHAN,

CHEMNITZ, October 14, 1893.

Consul.

AMERICAN SHOOK TRADE IN BERMUDA.

Ten years ago a firm in the United States practically controlled the market here for supplying shooks for onions, beets, and tomatoes. To-day this trade is almost wholly in the hands of Canadian firms.

In 1883, there was used for the exportation of Bermudian produce to the United States alone 331,945 boxes. In addition, a large number was used in shipping vegetables to other ports. Each crop season the requirement has fluctuated, sometimes more and sometimes less, until the close of the season of 1893, when the total requirement for all ports of exportation reached 353,027 for onions, 1,665 for beets, and 1,781 for tomatoes, and the coming season will probably be about the same.

The freight on shooks of American manufacture when last received here was $2\frac{1}{2}$ cents per box, whereas those from Canada paid but 2 cents.

With the cost of freight, shed tax, and duties included, the Bermuda farmer is now able to buy his Canadian shooks at from 9 to $9\frac{1}{2}$ cents, while goods of a similar quality and description of American manufacture cost him $9\frac{1}{2}$ to $10\frac{1}{2}$ cents.

Customs duties at Bermuda are, with a few exceptions, uniform, only 5 per cent ad valorem being charged on importations, with no discrimination as to the port of export.

It rests wholly with American manufacturers to decide whether the trade is worth having, and also whether they can place their goods on the market here at as cheap a cost to the consumer as the Canadian manufacturer.

The demand for shooks begins here about the 1st of January and ends the latter part of June, the end of the crop season.

Should any of our manufacturers decide to compete for the trade, it need not be expected that the matter can be settled the first year, nor perhaps the second; but with a little perseverance much may be done even in these years, and an improvement may reasonably be expected in the following years.

It would be an excellent plan to send representatives here to look over the field and investigate the condition and needs of the market, as by that means the conditions attending the manufacturing end could be brought into comparison with those of the landing and consumption.

JOHN H. GROUT, JR.,
Consul.

HAMILTON, BERMUDA, *October 13, 1893.*

PROPOSED WINE TAX IN GERMANY.

The further enlargement of the German army, assented to by the Reichstag last spring, makes necessary the expenditure of a few more millions of marks by the Imperial Government, and consequently necessitates additional taxation. The farmers of the Empire are a class with a grievance, and claim that they are so overburdened with debt and so injured by foreign competition that the Government is in duty bound to keep their unfortunate condition constantly in mind, and to seek by legislation to relieve it. The assurance seems to have been given or intimated at the time of the vote for an increase of the army that, whatever additional taxation might become necessary, it should not fall upon the farmers; and a like policy seems to be intended with respect to the laboring classes. Something has to be taxed, however, and wine, tobacco, and stock boards seem to have been selected for the extra assessment. The intimation is that the Government intends to ask the Reichstag for the grant of a tax upon all wine over 50 marks (\$11.90) in value per hectoliter (26½ gallons), that is, having a value of about 10 cents or more per quart, which is the size of the ordinary wine bottle. This creates the greatest opposition in the wine-growing and wine-dealing sections of Germany, and is looked upon by the parties interested as a calamitous measure. Vigorous protests are being made all through the wine-producing and wine-selling sections of the Empire against the bare entertainment of such a project by the Government, and if it be enacted into law the dissatisfaction on the Rhine and in southern Germany will, it is thought, be intense.

The Imperial Government estimates, it is said, that the net revenue from such a tax would be 10,000,000 marks (\$2,380,000). To collect it, those in opposition claim, would cost \$714,000 to \$952,000. The amount of vine land in all Germany under cultivation during the last ten years averaged only 120,000 hectares (about 300,000 acres).

These vineyards give, on an average, 2,360,000 hectoliters (about 62,500,000 gallons) of wine. Of the entire amount of land in question, about 50,000 hectares (125,000 acres) yielded wines not worth over 50 marks (\$11.90) per hectoliter (26½ gallons), or 10 cents per quart, which, under the proposed law, would be exempt from taxation. There are therefore 90,000 hectares (225,000 acres) of vineyards, producing on an average 1,500,000 hectoliters (39,700,000 gallons) of wine, which would be subject to taxation, to which must be added 600,000 hectoliters (16,900,000 gallons) of expensive imported wines. These 90,000 hectares, therefore, would have to bear the annual tax of \$2,380,000, which would be more than \$23.80 per hectare (2½ acres) per year.

Near Mayence a hectare of vineyard has a value, on the average, of 10,000 marks (about \$950 an acre*) and yields annually 15 hectoliters (397 gallons) of wine, which bring 1,250 marks (\$297), leaving about 250 marks (\$60) net, after deducting the expenditures for labor. Out of these 250 marks State, communal, and church taxes, insurance, cellar expenses, etc., have to be paid, so that, if the projected tax be laid, there will not be more than 100 to 150 marks (\$23.80 to \$35.70) remaining as net income per hectare from the vineyards, or 1 to 1½ per cent on the capital invested, which would result in a shrinkage of their value. The vineyards return now only 2 to 3 per cent on the money invested therein, and they are owned mostly by small proprietors possessing 10 acres or less each.

But the above showing is not the only objection that the opponents of the measure make. They object to the surveillance of tax-officers which would ensue, to the prying into mercantile books and accounts, to the restrictions on trade which would be imposed, and to the many annoying incidents accompanying the wine in its progress from the producer to the consumer.

The tax, the projectors of it seem to think, would be borne by the wine dealers and wine consumers, but the general opinion here appears to be that the wine dealers would be pretty sure to shift it on the original sellers. The trade is to be taxed, but the trade talks as though it would pay that much less for wine, and thus make the wine-grower pay the tax after all. It is also thought here that there will be such determined opposition manifested to the tax that it will never become a law.

The Government has not yet announced at what rate it proposes to tax wine.

JAMES H. SMITH,
Commercial Agent.

MAYENCE, *October 20, 1893.*

* Crown vineyards are valued at about \$3,140 an acre.

DANISH WEST INDIES.

I transmit my annual returns upon the islands of St. Thomas and St. Croix for the year ended March 31, 1893.

IMPORTS AND EXPORTS.

Nearly one-third of the imports were from the United States. The importations from the United States steadily lead all other countries. No official record is kept of exports, but they are estimated to amount to about \$150,000, of which \$97,000 and upwards go to the United States.

CUSTOMS AND SHIP DUES.

The government recently enacted the following ordinance, which remains in force for two years from the 1st of April, 1893:

The import duty is raised from 2 per cent to 3 per cent, while the light-house dues are abolished.

The government is authorized to grant, free of duty and subject to the control of the customs department, bonded storage in private warehouses of goods that are imported with the intention of being reexported, after undergoing provisional storage, to the country of origin within a term of two years after the importation.

As security for the import duty chargeable on the goods thus bonded, in case they are not reexported within the said term, the customs chest holds a prior right of mortgage in the bonded goods, and also preferential right of payment out of the importers' other properties, goods, or effects, and the government may also decide if additional security shall be given. The importer must submit to the control which the customs department shall consider necessary in respect to the bonded goods and their importation and exportation, and must defray the expenses therewith connected.

If the goods are not reexported within two years after the importation, the import duty is to be paid at once; but the government may, on application to that effect sent in in time, grant a renewal of the duty-free storage for a term of one year.

For irregularities committed in connection with the storage in question the importer is responsible.

This ordinance is established with a view of encouraging shipping. Vessels can now call here free of any harbor dues excepting pilotage, which is not compulsory.

NAVIGATION.

During the past year the United States and Brazil line of steamers have been discontinued, much to the detriment of the island. Five lines of steamers now touch here regularly, in addition to which the Quebec line of steamers touch either here or at Fredericksted, St. Croix, thus affording us the only direct mail communication with the United States.

PUBLIC HEALTH.

The health of the island during the past year has been excellent and continues to the present. The quarantine regulations are strictly carried out.

The death rate during the quarter ended March 31, 1893, was about thirty to the thousand for the year, and during the year ended December 31, 1892, thirty-eight to the thousand, the chief causes of death being consumption and diarrhea.

SAML. B. HORNE,
Consul.

ST. THOMAS, W. I., *October 16, 1893.*

THE RHINE VINTAGE OF 1893.

The vintage on the Rhine is now in a large measure finished, and the character of the wine of 1893 can, to a certain extent, be estimated, though it can not yet be said with absolute certainty what its precise quality will be in comparison with the best vintages of preceding years.

It is admitted on all sides that the wine of the present year will undoubtedly be fine in quality, but there seems to be disagreement of opinion as to whether it will excel the wine of all years since 1868, when a very noted vintage was obtained. Some think it will be a wine like that of 1886, or that of 1874, which were both excellent wine years, but not of a red-letter character like those of 1868 and 1865—to which the public here are constantly reverting when they speak of wine exceptionally fine—while others think that the quality of the 1868 wine will be reached by the wine of this year. Of course, it is to the interest of the wine-growers to exaggerate the probable quality of the new wine and of buyers and dealers to depreciate it.

The past summer, while very disastrous to forage plants, on account of its excessive dryness, was very favorable to fruit, and the grape did well, though a little rain now and then would have been very serviceable to it and would have still more increased the amount and raised the quality of the product. The grapes this year have all ripened, green grapes being the exception. Having ripened early, they have been untouched by frost, with, perhaps, a few exceptions, and the wine will consequently be free from the objectionable flavor often imparted by frost to wine. There were a great many overripe grapes this year, and these make the best wine.

The must weights in the better class of vineyards have been from 100° to 112° Oechsle as a common thing, while in the finest vineyards must weights up to 150° Oechsle have been noted, which is a remarkable weight. It is reported that in the very best vineyards, such as the renowned Steinberg, for instance, the must weights indicate a wine unsurpassed by any of the century. The must is very sweet. In ordinary vineyards must weights have run this year from 80° to 100° Oechsle as a rule.

In the matter of quantity the vintage, on the whole, will be, so far as I can make out, what is called a full one-half crop. This is a gratifying amount, as a three-fourths vintage is a rarity and a full vintage remarkably scarce. The yields vary considerably in the different vineyards, making

what the wine-growers call a *neidischer Herbst*, that is, an enviable ingathering, as some get three-fourths or more of a crop, while others have but one-third or less, which, when there is a good wine involved, makes the less lucky ones decidedly envious of their more fortunate neighbors.

The prices prevailing for the new wine are said to be rather moderate, taking into consideration the quality of the product. Buying is not as brisk as it should be. This is due to a shortness of money and to a disposition on the part of the wine trade to await the outcome of a threatened imposition of a tax on wine by the Imperial Government before making heavy purchases of new wine. But there will doubtless be a good deal of speculation in the new wine before long.

Wine, when exported, is to be exempt from taxation, it seems.

JAMES H. SMITH,
Commercial Agent.

MAYENCE, *October 20, 1893.*

THE SILK INDUSTRY IN SWITZERLAND.

As the manufacture of silk goods is taking a front rank among the industries of Switzerland, and as silks and half silks form the bulk of the exports from this district to the United States, I consider it worth while, in the interest of American importers and consumers, to present, in a brief form, the general result of the business of the season of 1892-'93, as obtained from a statistical review published by the Association of Silk Manufacturers of the Canton of Zurich. A season, or campaign, as it is termed here, comprises all the stages the silk passes through, from the breeding of the worm to the marketing of the finished fabrics, including the fluctuations in price, etc.

From the review mentioned, we learn that the world's total production of raw silk in 1892-'93 was the largest on record, exceeding the production of the preceding year by 370,000 kilograms (815,480 English pounds), amounting to 12,529,000 kilograms (27,613,916 pounds), while in the five years from 1881 to 1885 the crop averaged 9,631,874 kilograms (21,228,650 pounds), and in 1886 to 1890, 11,375,000 kilograms (25,070,500 pounds). The production of raw silk is steadily on the increase, caused by various agencies, among which are mentioned as of special interest:

(1) The large increase of silk culture in Syria and other parts of the Ottoman Empire, as a consequence of its encouragement and promotion by the administration of the Ottoman debt.

(2) The great flexibility and extensibility of the eastern Asiatic exportation, the amount of which, as is well known, not only depends on the result of the crops, but also on the reigning market prices. In the interior of China and Japan there are always to be found large stocks—we might call them reservoirs—of silk, partly for home consumption and partly representing gold and silver. When prices of silk are high, parts of these reserves are

thrown on the market for exportation, while as soon as prices drop these stores are closed again. This will explain why the amount of exportation was larger toward the end of the season than had been presumed at its beginning.

The silk crop of 1893 is estimated at 14,070,000 kilograms* (31,018,722 pounds). In this total production Europe shares with 4,977,000 kilograms (10,972,294 pounds), the Levant with 923,000 kilograms (2,034,845 pounds), and eastern Asia with 8,170,000 kilograms (18,011,582 pounds).

An excess of consumption—which means a diminution of stock—in 1892-'93 of 2,004,000 kilograms (4,418,018 pounds) will be only partly balanced by an increase of production in 1893 of 1,541,000 kilograms (3,397,288 pounds). If in the season of 1893-'94 the consumption should proceed in the same proportion, the general stock would be further reduced about 463,000 kilograms (1,020,729 pounds), and even if consumption should fall to the average level of 1890-'91 and 1891-'92—11,800,000 kilograms (26,014,280 pounds)—the supply of the market would only approximately reach the figure with which the lively season of 1892-'93 had opened.

As far as Switzerland is concerned, the importation, as well as exportation, of silk in 1892-'93 (according to weight) manifested an ascending tendency after a slight decline in the previous year, the importation of 5,042,000 kilograms (11,115,593 pounds) showing an increase of 14 per cent and the exportation of 5,941,000 kilograms (13,097,528 pounds) an increase of 7 per cent. This is due, in the first place, to the larger transactions in the spun-silk industry, the materials of which show an increase of 25 per cent in importation and of 20 per cent in exportation; and, in the second place, to the increased import and export of raw silk. The export of silk thread, too, is on the increase. As to fabrics, a decrease of import is to be recorded, which is almost exclusively confined to piece goods and ribbons of pure silk, and may be ascribed to the interrupted commercial relations with France, *i. e.*, to a smaller purchase of merchandise from there. The import of half-silk fabrics, however, has considerably increased. The export of fabrics has remained stationary as to weight, a slight decrease in piece goods being counterbalanced by an increase in ribbons. The export of silk embroideries has dwindled down—in consequence of their neglect by fashion—to less than half of its former amount.

Regarding the export of silk goods from Europe to the United States, we find that the increase recorded for the six months of the season has been followed by a further material increase in the second half. Though it slackened somewhat at Lyons (falling from 33 per cent to 26 per cent), it advanced from 17 per cent to 29 per cent in the Swiss, and even from 5 per cent to 30 per cent in the Rhenish district, Crefeld and Horgen ranking highest in the list. As the final result at the close of the season an average increase of 28.5 per cent, or 25,000,000 francs, can be recorded. The total importation of silks into the United States amounts to 113,000,000 francs,

* The consul variously estimates the kilogram at 2.204 pounds and 2.2046 pounds.

in which Switzerland participates with one-fourth, *i. e.*, 28,500,000 francs. In connection with these figures the higher average value of the goods, especially in the latter half of the season, should be taken into consideration. In the increased consumption participated, first, silks in the piece, and second, velvets and ribbons; bolting cloth showed but a slight increase, and embroideries, lace, tulle, and crape even a material decrease.

From present appearances it may be assumed that the exports of silks from Switzerland to the United States during the present season—1893-'94—will remain far behind that of 1892-'93, the prices also being materially lower. The factories, however, so far remain in full operation, having probably found other outlets for a part of their products.

WM. F. KEMMLER,
Consul.

HORGEN, *October 16, 1893.*

RUSSO-GERMAN COMMERCE.

Since the year 1877 the Russian customs tariff has been raised at four different times; the first time by the remodeled tariff of July 1, 1882, next by an imperial rescript of May 20, 1885; the ukase of September 1, 1890, ordained that the duties were to be raised 20 copeks in gold for each ruble, and this decision has been partly maintained, and partly exceeded in the tariff ruling at present, which was issued June 11, 1891.

The effect of this upon the German exports to Russia is seen in the decrease in the value of exports. These amounted to \$55,216,000 in 1880, and decreased from year to year until 1887, when they amounted to only \$31,416,000. After that the export trade recovered, amounting in 1888 to \$47,600,000; in 1889, \$46,886,000; in 1890, \$49,028,000; in 1891, \$62,594,000. The quantities steadily decreased. They amounted in 1880 to 920,000 tons; in 1890, 590,000 tons; in 1891, 510,000 tons.

The exports from Russia to Germany amounted in 1880 to 198,000 tons, valued at \$78,778,000; in 1889, 438,000 tons, valued at \$131,138,000; in 1890, 430,000 tons, valued at \$128,758,000; in 1891, 387,000 tons, valued at \$138,040,000.

Cereals are the most important imports from Russia into Germany.

The very moderate taxes of the German tariff of 1879 on grain have been raised twice. The law of February 20, 1885, fixed the import duty on rye and wheat at 71.4 cents (3 marks) per 100 kilograms; for oats and barley at 35.7 cents (1.50 marks) per 100 kilograms. The tariff law of December 21, 1887, raised the duty on wheat and rye to \$1.19 (5 marks), on oats to 95.2 cents (4 marks), and on barley to 53.5 cents (2.25 marks).

By means of the new treaties of commerce the duty on wheat and rye has been reduced to 83.3 cents (3.50 marks), on oats to 66.6 cents (2.80 marks), and on barley to 47.6 cents (2 marks) per 100 kilograms.

These moderations are under the most-favored-nation clause. By this clause Russia is not affected. Nevertheless, the import of the before-mentioned sorts of grain by Germany from Russia continually increases. Germany imported from Russia in 1880 and 1891 as follows:

Grain.	1880.		1891.	
	Quantity.	Value.	Quantity.	Value.
	<i>Tons.</i>		<i>Tons.</i>	
Wheat.....	55,600	\$2,618,000	515,212	\$21,658,000
Rye.....	421,237	17,136,000	618,984	23,562,000
Oats.....	90,634	2,856,000	103,657	2,856,000
Barley.....	22,100	880,600	294,113	8,306,000

OSCAR GOTTSCHALK,
Consular Agent.

MARKNEUKIRCHEN, *October 18, 1893.*

WAGES IN SILESIA FLAX MILLS.

I transmit this report as requested by your circular of August 24 of this year. I found great difficulty in gaining the necessary information, since mill-owners refuse to make public what they consider their business secrets. However, through personal acquaintance with one of the most prominent and reliable spinners in my district, I am enabled to work out the table following. We also failed to obtain any information from the Government authorities, as they, too, refused to give any satisfactory answers to our inquiries; yet I trust the report will be sufficient.

Wages paid in Silesian flax mills.

Description.	Wages per week.	
<i>Spinning mills.</i>	<i>Marks.</i>	
Hacklers (men only).....	15.00	\$3.57
Forehand spinners (women only).....	9.00	2.14
Fine spinners.....	7.20	1.71
<i>Power-loom weaving factories.</i>		
Weavers :		
Men	12.00	2.85
Women.....	9.00	2.14
Sizers (men).....	20.00	4.76
Tenters (men).....	20.00	4.76
Spoolers (women).....	9.00	2.14

FREDERICK OPP,
Consul.

BRESLAU, *October 24, 1893.*

GERMAN EXPERIMENTS IN FERTILIZING TOBACCO LANDS.

In December, 1891, I submitted a report of the proceedings of a convention which had been held on the 14th of that month at Karlsruhe. The delegates, representing the tobacco-growing states of Germany, as well as Austria-Hungary and the Imperial Bureau of Agriculture at Berlin, met to formulate plans for a series of exhaustive experiments in the fertilization of lands used for the cultivation of tobacco. These experiments, as then organized, were to be continued through four successive years, beginning with the season of 1892, and were to be controlled by a central committee having its headquarters at Rufach, in the province of Alsace. This committee was charged with the duty of preparing a programme for the experiments of the first year, analyzing the product, reporting the results thereby obtained, and preparing a new schedule for trials of the second year, and so on from year to year until the close of the series.

The programme for the first year's trials was issued on the 1st of February, 1892, and was embodied in a supplemental report from this office on the 5th of that month, both reports being published consecutively in CON-SULAR REPORTS No. 138, for March, 1892, pp. 513-519.* At the December meeting at Karlsruhe—which included, besides the official delegates, a large number of tobacco culturists and manufacturers from southern Germany—there were exhibited numerous samples of American, Sumatran, and German tobacco leaf, and the superiority of the two former over the latter was demonstrated by various tests. It was shown that the most serious defect in the German tobacco is its lack of “Brennbarkeit”—in other words, its susceptibility of burning evenly, with a well-flavored smoke, leaving a pure, white, inorganic ash. This defect in the home-grown leaf was ascribed to an excess of chlorine and nitrogen and a deficiency of alkaline salts in the soil, the result of long culture and profuse fertilizing with ordinary stable manure and night soil, both of which are rich in nitrogen and are therefore essential to the luxuriant growth of the plants, but lack some of the other elements which are requisite to give the leaf its finer qualities for smoking purposes.

The problem was therefore to test by a system of cumulative experiments, covering a series of years and a wide area of application, with all incidental variations of soil, climate, and rainfall, the best methods of supplying the alkaline elements so as to improve the quality of the leaf without reducing the volume and merchantable weight of the crop. As all tobacco lands in Europe are more or less exhausted of their original fertility by excessive

* Mr. Mason, in submitting the present report, says in reference to his previous ones on the same matter: So great was the interest thereby awakened that many letters of inquiry were received, and an association of tobacco-growers in the Connecticut Valley sent an expert to visit the experimental stations in Germany and study the trials at close range. Although this series of experiments will not be completed until the autumn of 1895, it has been thought that a report of the progress thus far made and the plan for the trials of next season may be of interest at this time.

cultivation, it is necessary to continue the liberal use of organic manures. What is needed is to ascertain in what form and quantities the salts of potash and magnesia should be applied to restore the equilibrium of all essential elements in the land.

Two of the four years of experiment are now past. The results of the first season's trials are recorded and announced. The crop produced by the second year's experiments has been gathered, and, although its analysis can not be furnished before January or later, it will doubtless interest American tobacco-growers to know in what direction the conclusions begin to point and the exact plan that has been prescribed for the trials of next year, preparations for which are already begun. The schedule for the experiments of 1892 not having been issued until February of that year, it became necessary to apply the chemical fertilizers in the spring, instead of during the preceding autumn, by which latter method they would be dissolved and distributed through the soil by the rains and alternate freezing and thawing of winter. With this exception, the general plan of the experiments, as at first declared, is continued unchanged throughout the series. Each experimenter is required to provide a piece of clean, light, well-tilled land 52 meters long by 10 in width. This is divided by cross walks 18 inches wide into five equal sections 10 meters square, each having an area of 100 square meters—equal to 950 square feet. These sections are numbered from 1 to 5, and each is referred to by its number in all reports or other correspondence with the committee.

The chemical fertilizers chosen for the trials of the first year were sulphate of potash, containing 52 per cent of potash, and carbonate of potash-magnesia, containing 18.5 per cent of potash, and, to counteract their caustic qualities when freshly applied, both were mixed with a prescribed quantity of pulverized peat.

The land was to be taken just as it had been left by previous cultivation. Section No. 1 was to receive no form of potash, and Nos. 2, 3, 4, and 5 were to be treated with different but carefully prescribed quantities of sulphate of potash and carbonate of potash-magnesia, and then planted with tobacco of the kind or kinds ordinarily grown in the vicinity and cultivated, topped, and cured by the prevailing local methods. As a result of the first season's trials, one hundred and forty-five sets of samples of leaf were sent in, each set representing the growth from five sections of ground fertilized and cultivated under the specified conditions. These samples were carefully examined, analyzed, and submitted to the standard tests for "Glimmdauer" (*i. e.*, the length of time that the cured leaf will burn in the open air, without artificial draft), and the results published to members in a tabulated record, which is, unfortunately, too bulky to be reprinted and rather too technical to be interesting to anyone but an expert. A somewhat careful study of this record in connection with the report of the supervising chemist seems to show that the results of the first year's trials were, as might have been expected, so varied as to be inconclusive.

The experiments of that season were made under two serious disadvantages: First, the necessity, as already noted, of spring fertilizing, and, second, a severe drought, which began in July and rendered the ground during the last two or three months of the growing period so dry as to seriously retard the dissolution and absorption of the fertilizing elements by the growing plants, it having been specified that artificial watering should not be resorted to. Autumn fertilizing will in future go far toward neutralizing the effects of insufficient moisture, but in the experiments of 1892 this difficulty had so much influence as to produce wholly different results in sections in which all other conditions except rainfall were practically identical.

The analyses on which the report of Dr. Barth is based fully confirm the principle that the less chlorine tobacco leaf contains and the more potash, in combination with the organic acids of the plant, the better it will burn and the higher its quality for smoking purposes. Another demonstrated result was that the use of potash had no appreciable effect in increasing or diminishing the bulk or weight of the plants, the only influence of the new elements being to change the chemical composition of the leaf. In most cases the net result was that the quality of the leaf was distinctly improved; but in a few cases a neutral or even negative effect was observed, the samples from Passow, Schweigenheim, and Carlsruhe showing an increase of chlorine and a loss of the alkaline elements. It was therefore determined to make the second year's experiments under practically the same conditions as those of 1892, except that each plat of 500 square meters should receive 2 tons of stable manure, and that this, as well as the chemical fertilizers, should be applied in the autumn. Thus prepared, the second year's experiments were made and the samples which embody the result are now being sent in for analysis and report. The drought which began in the summer of 1892 continued practically unbroken throughout southern and western Germany until the 20th of July of the present year; but from that date rains were abundant, and from the general excellence of the German tobacco crop this year it may be inferred that the experiments have been equally fortunate.

The programme for the trials of next year has just been issued, and as this embodies the suggestions derived from the preceding experiments, a résumé of the specifications may be of timely interest to American tobacco-growers, who are likewise studying this complicated subject.

THE PROGRAMME FOR 1894.

The ground shall be of the same dimensions and plan as originally specified, viz, five contiguous parcels or sections each 10 meters square and divided by walks 18 inches wide. The whole tract shall receive during the preceding autumn 2 tons of well-rotted stable manure, thoroughly spaded or plowed under. In addition to this the several sections shall be treated, likewise in autumn, as follows: Section 1 to receive no fertilizer containing potash; section 2 to receive 2.75 pounds of sulphate of potash; section 3 to

receive 5.5 pounds of sulphate of potash; section 4 to receive 7.36 pounds of carbonate of potash-magnesia; section 5 to receive 11 pounds of carbonate of potash-magnesia and three-fifths of a pound of sulphate of potash.

In order to promote the uniform distribution of these chemicals over the whole area of each section, they are to be mixed with five times their bulk of dry, loose earth, the use of turf being abandoned. The chemical mixtures are to be strewn over the surface after the stable manure has been plowed or spaded under, and thoroughly worked in by raking and forking. When the ground thus prepared is the same that has been used for the preceding experiments, each section must retain the same number as it has borne hitherto. When the crop is gathered and cured, 1 pound of leaf from each section shall be selected, marked with its number, name of the grower, location, etc., and sent to the committee at Rufach. In order to further test the fermentation, 1,000 leaves are to be sent by each experimenter to the imperial tobacco factory at Strasburg.

In addition to this, each experimenter must submit to the committee, with his samples, a report covering twenty-two specified points, of which the most important are: Whether or not the land had been previously used for tobacco-growing, and if so, what fertilizers had been used; the kind of tobacco planted for the experiments; dates of planting, topping, and gathering; the number of plants set in each section; aggregate rainfall during the growing season, etc.

It will be seen that this is by far the most elaborate and thorough series of experiments that has ever been undertaken in connection with tobacco culture. Its results, when complete, will form the basis of a new system of fertilization which will be of important value to the growers in all producing countries, and notably so to those of the United States, where the conditions of soil and climate are so similar to those which prevail in Germany. The interest awakened by these experiments and the certain prospect of a scientific solution of the problems which have hitherto discouraged German tobacco culturists have already exercised a stimulating influence, and the official returns of this year's crop, just published at Berlin, show an increase of 47,792 ar (4,799,200 square meters) in the area of German tobacco cultivation as compared with that of the preceding year.

FRANK H. MASON,
Consul-General.

FRANKFORT, *November 3, 1893.*

THE HARVEST IN ENGLAND.

The harvest was completed much earlier than usual, and the yield of all cereals was exceptionally good. Wheat, oats, and barley have shown excellent heads, with short straw, the natural consequence of an unusually dry season. Wheat, principally that on the higher grounds, suffered to some

extent from "smut." The early hay harvest was a complete failure, being scorched; but latterly a considerable quantity of hay and clover has been cut, which will to some extent relieve the anticipated distress that the failure of the early crop threatened.

Mangel-wurzels and turnips, which in many cases had to be resown—the first not taking root or showing growth, owing to the drought—are not quite so favorable as usual, but nevertheless are flourishing. Potatoes, particularly the late ones, show fair growth, but are not equal to those of last year; there is, however, very little disease. Green vegetables, pease, and beans are and have been scarce, and so have been the early fruits, such as black and red currants, gooseberries, etc.; but the summer crop of fruit of all kinds has been abnormally large. The crop of apples is prodigious and unprecedented and so prolific that for want of adequate and remunerative sale large quantities are used as food for pigs and cattle, and, besides, a great quantity of cider is made.

The extreme heat has caused a scarcity of butter, and that commodity is very dear.

The prices for grain are—what last year was thought impossible—still lower than ever, and the farmer wears a gloomy face as he sees year after year little or no result of his efforts.

THOS. W. FOX,
Consul.

PLYMOUTH, *October 12, 1893.*

NEW BRUNSWICK AGRICULTURAL EXPORTS.

The following table shows the quantities and values of the various agricultural products exported to the United States from the St. Stephen consular district during each of the ten fiscal years from the year ended June 30, 1884, to the one ended June 30, 1893:

Exports of agricultural products.

Year ended June 30—	Beans.		Beets.		Carrots.		Hay.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Bushels.</i>		<i>Bushels.</i>		<i>Bushels.</i>		<i>Tons.</i>	
1884.....							7.7	\$83
1885.....							41	510
1886.....					2.5	\$1	171	2,324
1887.....							6	66
1888.....							121.5	1,103
1889.....					25	10	125	1,385
1890.....	60	\$98			25	10	43.5	497
1891.....	2,725	3,805	8	\$2	68	19	9	91
1892.....	1,622	2,259			25	7		
1893.....	1,814	2,830					171.5	1,658

Exports of agricultural products—Continued.

Year ended June 30—	Cats.		Potatoes.		Straw.		Turnips.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	<i>Bushels.</i>		<i>Bushels.</i>		<i>Tons.</i>		<i>Bushels.</i>	
1884	1,475	\$566	6,203	\$2,086			28,294	\$8,334
1885	1,840	608	12,467	3,800			56,963	12,665
1886	710	229	27,790	9,662			88,257	12,920
1887	1,177	382	15,859	4,710			65,758	13,272
1888	3,373	1,166	21,879	11,105			83,711	21,384
1889			23,017	7,628			135,904	18,303
1890	100	40	12,034	5,416	9	\$60	92,183	17,326
1891			14,516	6,748	9.5	58	82,965	17,110
1892			1,500	284			88,105	12,042
1893			4,719	2,215	15	62	93,299	18,008

Year ended June 30—				Miscellaneous vegetables.		Total value.
				Quantity.	Value.	
				<i>Bushels.</i>		
1884				450	\$116	\$11,185
1885						16,983
1886						25,136
1887						18,430
1888						34,758
1889						27,326
1890						23,349
1891						27,833
1892						14,532
1893						24,773

It will be noticed that the export of turnips is considerably in excess of that of all the other products combined, both as to quantity and value. These turnips are of the Swedish, or ruta-baga, variety, but are better known in the markets as the St. Andrews turnips. They have come to be a favorite crop with the farmers of St. Andrews and neighboring parishes, and are extensively cultivated by them. The soil of this region appears to be specially adapted to their cultivation. Attempts have been made to raise them in other places where the soil is not of the same kind, but equally good results have not been obtained. The soil in which they are successfully grown is a loam or gravelly loam. The dressing is barn manure, phosphates, and a compost of which refuse fish is a material part, and its use is necessary each season. The seed is imported from Scotland yearly, and is sown in the months of May and June. The crop is gathered in August and September. The average yield per acre is estimated at 1,000 bushels, the cost of production per bushel 12 cents, and the market price 20 cents. The last year's report on agriculture for New Brunswick alludes to farmers making "quite a specialty of growing" these "turnips for the Boston market, where they are highly esteemed." The marketable turnips are round and smooth, free from cracks and worms, and of such excellent quality that they find a ready

sale. The fine quality is ascribed to the nature of the soil in which they are produced and to its nearness to salt water.

It is only within the last three years that beans have become a considerable article of export. These are not a product of New Brunswick, but are brought by rail from Ontario to St. Stephen, and thence distributed to purchasers on both sides of the boundary line. Notwithstanding the cost of transportation and the duty imposed by the United States, dealers are able to make profitable sales in the adjoining towns in Maine. This fact is suggestive of larger sales on the border where the markets are more extensive, and to which the cost of carriage is considerably less.

EDGAR WHIDDEN,

Consul.

ST. STEPHEN, *October 10, 1893.*

HOW THE GOVERNMENT SHOULD AID COMMERCE.*

* * * * *

The first duty of the State to our merchants is to inform them of the condition of foreign markets, of their needs, their usages, the methods employed by the countries that import our products, and, consequently, of the means to be employed by our citizens to open new channels or to extend their relations. This information can be furnished only by consuls, chambers of commerce, or by persons charged with a special mission having for its object the study of such and such a country or such and such a market.

* * * * *

As for the consular reports, these have greatly improved of late years, although some of them are far from answering present needs. As one reads them in the different official publications one is struck with the diversity of these reports. It is plain that one idea does not govern their preparation, and the conclusion naturally follows that a controlling direction which would lead the agents to follow one path is lacking. Of these reports, whether yearly or monthly, one will be purely statistical, will record scrupulously the figures of exportation and importation, giving as far as possible the destination and origin, the entries and clearances of vessels, their tonnage and flag, but general considerations are lacking. The compiler has not searched for the causes of the increase or decrease of the commercial movement on the part of each country concerned; he has confined himself to furnishing materials without working them up. These documents have evidently their value; they are indispensable to the building of the edifice, but they are only the elements. The architect is wanting to form the plan and the mason to execute it. The figures are nothing, taken alone; they must be assembled, grouped together, compared—in a word, made to talk. Reports of the nature described are useful to economists, who draw their conclusions from

*From "Revue du Commerce Extérieur," Paris, October 21 and 28, 1893.

them; but they do not answer the needs of merchants, who must have clear and precise data—indications which can be immediately followed. The agents of the State must take the trouble for them and save the persons interested, who are always pressed for time and who have not leisure to study numerous documents, in order that they may find out what they have to do in the markets which concern them.

Fortunately, as we have said, there are other reports prepared and edited in a more practical way. They contain indications which it is easy to follow, and it is precisely the reading of these which makes more sensibly felt the insufficiency of certain others. We hope that with time, and above all with a new direction given to the consular corps, these reports will all be prepared in the same manner, and that our merchants will find them sources of valuable information.

To obtain this information is not all; the State must publish it, must bring it to the knowledge of the greatest number possible, must keep it at the disposition of those who have need of it. A part of this programme is carried out, it is true, but in an inadequate manner, by methods which are too roundabout and which for that reason do not reach, or reach with much difficulty, those most interested.

We do not desire to criticise the official publications; it might be believed that we are animated by sentiments which are far from us. We recognize, on the contrary, that the department of commerce has striven to respond to the needs of commerce, and that if it has not always succeeded the failure is not chargeable to it.

A defect exists in the ministry of commerce as to the communication of information which we ought to point out, since it is precisely this which is the cause of the weakness of our export trade. This ministry publishes the information which it obtains, certainly, but once published it concerns itself no further. It remains in the newspapers where it has appeared, and if a merchant wishes any special information, he must ask for it by letter. The letter will be forwarded to the minister of foreign affairs, to be thence addressed to the proper consul, who will make inquiries. This, though very easily done, will often take a long time, and the result will be communicated to the person interested in the hierarchical method. Weeks will elapse between the question and the answer, and when it arrives it will perhaps be useless from being no longer opportune.

To remedy this grave defect, there should be created in the ministry of commerce a special service, well directed, well appointed, and charged with giving an immediate response to every serious question. For this, what would be necessary? A set of employés constantly occupied in making abstracts of French official and foreign reports and newspapers and in extracting from them whatever would interest our commerce. Another group to inscribe these abstracts or the indication of their origin (the original being carefully classified) upon cards which should be always accessible. Finally, a third group whose duty it should be to answer inquiries, either verbally or

in writing. Thanks to the cards, these answers would be easy and that which would be furnished would be real information. Extracts from these indications would be forwarded to the chambers of commerce, the syndical chambers, the exportation companies, and by this means French commerce would be usefully informed.

The organization of such a service would naturally require some expenditure; less, however, than may be supposed. There are in the ministry of commerce, as in all the ministries, services of questionable utility and bureaus the suppression of which would leave no void in the administrative machine. Let these services be suppressed and the personnel of them be transferred to the service of information which we recommend. The budget of the State would not be burdened, and our commerce would be better off. The essential point is that the service should be administered by officials penetrated with a sense of the importance of their functions and well informed respecting the wants of commerce.

This would realize the first part of our programme, implying the obligation of the State to give information to merchants as to the methods to be pursued in order to open foreign markets to French products.

If the State is under an obligation to furnish information to merchants, it is on the condition, however, that the latter will, on their part, take the trouble to read and pay heed to it. Now, in France our way is to complain, and when a remedy is offered to us we make haste to declare that it is worthless. Our merchants have cried out in every form of speech that the Government does not aid them; that consuls do not work; and when information has been furnished by consuls these same merchants have refused to pay attention to it under the pretext that consuls are not competent in commercial matters, and that their information is without value. It is necessary, however, that we should arrive at an understanding. Either consuls are incompetent—and in that case it is useless to complain if they do not inform commerce—or else, without being merchants, they have it in their power to procure valuable information and to give, upon occasion, good advice. In the latter case it behooves merchants to be less disdainful and to consent to devote a few moments to informing themselves as to what is going on outside of us. Here is the answer which was made to me quite recently by a great merchant of Paris who was pouring forth bitter complaints of the ignorance in which commerce was left regarding the condition of foreign markets. I placed before him the documents printed by the Government giving the desired information. At first he found it very good, very useful; he did not know that such publications existed. Then all of a sudden he changed his tone and added: "No doubt it is very well, but there is too much of it; I could never read all that, I have hardly the time to read my Figaro."

The reply was doubtless very flattering to the Figaro, the reading of which is so attractive as to absorb all the moments at the disposition of a merchant; but it is less to the praise of its author, who thus permits it to be supposed that he places his commercial interests far below his pleasures.

And we are compelled to recognize that this merchant is not the only one of his class; that there are far too many who would not forego the daily reading of the Figaro or some other Parisian newspaper for one which would enlighten them on the means of increasing their patronage or not losing what they have been able to preserve.

We admit that the Government's mode of communicating to the public information received by it from its agents is imperfect and susceptible of improvement, * * * but because an institution is not all one could wish is not a reason for altogether disdaining and refusing to avail one's self of it; for how can the State undertake to perfect a machine which no one will employ? On the contrary, the greater the number of those who have recourse to official information, the greater will be the interest of the State in rendering the information which it furnishes useful, practical, and complete. But once more, let the merchants renounce their predetermined contempt and let them run more hastily through the Figaro, that they may reserve to themselves a little leisure to glance at the information which relates to their commerce.

* * * * *

THE COAL TRADE OF NEW SOUTH WALES.

The most extensive coal fields known in the southern hemisphere and the most extensively worked coal mines south of the equator are those of the colony of New South Wales.

The fields of this colony are divided into three groups, known as the northern, southern, and western, situated in those directions from Sydney, the capital; and their relative importance is in the order named. The whole area of known coal, according to the latest estimates, is about 27,000 square miles, and the quality varies from a bright bituminous in the north to semi-bituminous in the south and a splint and semibituminous in the west.

The first discovery of coal was made in 1797, and from that date up to the year 1892 the output of all the mines was as follows:

Year.	Intercol- onial.	Foreign.	Home con- sumption.	Total out- put.	Value.		Average per ton.	
	Tons.	Tons.	Tons.	Tons.	£	s. d.	s. d.	
1829-'42.....				266,846	135,262	0 0	10 2	\$2. 46
1843-'52.....				451,194	179,546	0 0	7 11	1. 93
1853-'62.....				2,462,982	1,669,665	0 0	13 7	3. 29
1863-'72.....	3,224,432	1,799,819	2,742,204	7,766,455	3,240,737	0 0	8 4	2. 03
1873-'82.....	5,731,525	3,675,344	5,688,460	15,095,329	7,977,064	13 8	10 7	2. 57
1883-'92.....	11,161,560	7,894,193	12,585,197	31,640,950	14,067,155	13 11	8 11	2. 16
Total.....				57,683,756	*27,269,430	7 7	9 5	2. 29

* Equal to \$132,706,681.

The output tonnage of the various colliery districts for the year 1892 was as follows:

District.	Output.	Value.		
	Tons.	£	s.	d.
Northern.....	2,611,732	1,102,694	14	5
Southern.....	932,873	302,279	1	3
Western.....	236,363	57,414	13	8
Total.....	3,780,968	1,462,388	9	4

Number of men employed in 1892.

District.	Collieries.	Above ground.	Under ground.	Total.
Northern.....	54	1,421	6,783	8,204
Southern.....	12	379	1,440	1,819
Western.....	17	90	401	491
Total.....	83	1,890	8,624	10,514

The coals of the northern and southern districts are mined largely for export, and are shipped, the former from Newcastle and the latter from open roadsteads along the coast south of Sydney. Southern coal for foreign-going sailers is transshipped at Sydney. The harbor of Newcastle is an excellent one and is visited by some of the largest vessels afloat, while the hydraulic cranes owned by the government are each capable of loading 200 tons of coal per hour. There are fifteen cranes altogether, which work, when required, the full twenty-four hours, the night loading being facilitated by the finest installation of electric light south of the line. There are also private shipping places.

Coal export from Newcastle, New South Wales, to the United States from 1883 to 1892 inclusive.

Port of entry.	1883.	1884.	1885.	1886.	1887.	1888.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
San Francisco.....	109,188	128,745	155,995	161,793	158,753	179,033
Portland.....	8,239	2,260	2,531		4,221	8,788
Astoria and Portland.....	9,725	3,148		6,079	4,265	2,270
Wilmington.....	12,756	11,339	12,136	22,480	43,690	62,508
Wilmington, San Francisco, or Portland...	1,568	600			1,700	
Wilmington and San Francisco.....	3,700	5,000	1,300	2,450	4,446	4,670
Santa Barbara.....						990
Astoria.....	220					
Portland and Astoria.....	1,853			1,192	2,016	
San Diego.....	1,440	871	4,173	7,199	34,867	61,545
Eureka.....		354	507	450	1,411	750
Humboldt Bay.....			565	600		
San Francisco and Honolulu.....			1,711			
San Diego and San Francisco.....					2,270	618
Total.....	148,689	152,377	179,318	202,243	257,639	321,172

Coal export from Newcastle, New South Wales, to the United States, etc.—Continued.

Port of entry.	1889.	1890	1891	1892.	Total.
	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>
San Francisco.....	245,821	116,512	241,288	184,289	1,668,147
Portland.....	4,422	4,974	14,527	6,740	57,112
Astoria and Portland.....	1,800	2,300	2,600	6,167	35,114
Wilmington.....	12,110				17,110
Wilmington, San Francisco, or Portland.....					3,110
Wilmington and San Francisco.....	800				22,110
San Pedro.....	865		9,188		10,110
Santa Barbara.....		450	1,085	1,123	3,642
Astoria.....	1,530	750			2,530
Portland and Astoria.....					5,530
San Diego.....	37,712	19,202	41,543	29,201	237,755
Eureka.....	435	520	1,449	633	6,559
Humboldt Bay.....		763			1,422
San Francisco or Portland.....		2,153			2,153
San Francisco and Honolulu.....					1,711
San Pedro and San Francisco.....			850		850
San Diego and San Francisco.....	1,200				4,022
Seattle.....	1,630				1,630
Total.....	308,325	147,624	312,530	228,153	1,255,577

Composition of the coals of a few of the leading mines.

Colliery.	Water.	Volatile hydrocarbons.	Fixed carbon.	Ash.	Sulphur.	Specific gravity.	Coke.
<i>Northern district.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>		
Newcastle Wallsend.....	2.29	34.21	58.6	4.28	0.62	1.347	62.58
	2.75	34.17	57.22	4.64	1.22	1.333	61.87
Australian Agricultural.....	2.22	32.6	57.52	5.35	1.33	1.297	62.87
	1.65	35.45	57.84	4.44	0.62	1.286	63.23
Coöperative.....	2.45	34.38	58.24	4.2	0.73	1.31	62.44
Newcastle Coal Mining Company.....	2.14	33.36	59.16	4.76	0.58	1.283	63.92
Greta Colliery.....	2.25	33.21	54.41	2.72	1.41	1.287	57.13
<i>Southern district.</i>							
Mount Kembla.....	1.5	19.74	67.18	10.72	0.86	1.363	None.
Coal Cliff.....	0.86	18.22	69.84	10.8	0.28	1.378	80.64
Mount Keira.....	1.15	23.51	64.65	9.7	0.99	1.379	75.35
Illawarra.....	0.7	22.04	68.08	8.76	0.42	1.354	76.84

The average price of coal in the various districts during the year 1892 was:

District.	Price.	
	<i>s.</i>	<i>d.</i>
Northern.....	8	5.32
Western.....	4	10.3
Southern.....	6	5.6

The thickness of the seams worked in the northern district varies from a little over 4 feet to over 30 feet. The standard seam which regulates wages paid to the miners is 5 feet of coal, according to an agreement between the

coal masters and the miners. The present selling price of coal by what is known as the associated northern collieries is 9s. per ton; and the mining rate under the agreement with the miners, as per sliding scale, is 3s. 6d. per ton, the minimum rate payable however much the selling price may be reduced. Many mines are not associated. These mines sell at any price they please. This fact, together with the discovery of new fields elsewhere and the extraordinary depression from which Australasia is suffering, has determined the associated masters to give the miners notice of the termination of the agreement with them at the end of this year, in order to clear the way to bring down the minimum hewing rate and other charges payable to the men.

The agreement referred to, from actual experience, and the preceding one—almost on all fours with it—have served the purposes for which they were intended—preventing a deal of friction and misunderstanding between the two parties.

The general impression in Newcastle is that the selling price of coal will be reduced after the end of this year and with it the wages paid for getting or winning the coal; but the extent to which the reductions may be in either case is not yet seriously discussed.

Though the miners make good wages while they work, the capacity of the mines is so far beyond the demand that the men get on an average just now not more than four or five days' work per fortnight. Some, of course, get more, but very many much less. The consequence is that there is a great deal of destitution in Newcastle city and particularly in many of the surrounding mining townships. In some instances the men have gone up-country in search of work or to try their luck on one* or other of the old alluvial gold fields. To assist them the government has issued free railway passes and given them provisions for a fortnight. In many cases the men have done fairly well.

From the success that has attended the floating of a loan by the neighboring colony of Victoria on the London market during the present week and the very favorable criticism in London of the New South Wales premier's proposal to " earmark " certain revenue for the purpose of ultimately paying off the national debt of this colony and various economies practiced in regard to expenditures, the confidence of capitalists is likely soon to become fully restored. This return of confidence, together with a magnificent wool clip, the finest in the annals of the colony, should set us again on the high road to prosperity, in which doubtless the coal trade will participate in common with the other great industries of the country.*

STEWART KEIGHTLEY,
Vice-Commercial Agent.

NEWCASTLE, N. S. W., *September 30, 1893.*

* NOTE BY THE DEPARTMENT.—Reference is made to "Coal Mines of New South Wales," by G. W. Griffin, CONSULAR REPORTS No. 78, p. 403.

THE MANUFACTURE OF ALUMINIUM.

(On June 26, 1893, the consuls at Birmingham, Bremen, Brussels, and St. Gall were instructed to make investigations and report upon the manufacture of aluminium in their respective districts.

Under date of July 25 the consul at Bremen reported that the aluminium factory at Hamelingen, near Bremen, the only factory of the kind in his district, "ceased operations some time ago," and now confines itself to the production of magnesium. The process at this factory for the manufacture of aluminium was too expensive to enable it to compete with factories employing the electric system.

The consul at Brussels reports that aluminium is not manufactured in Belgium.

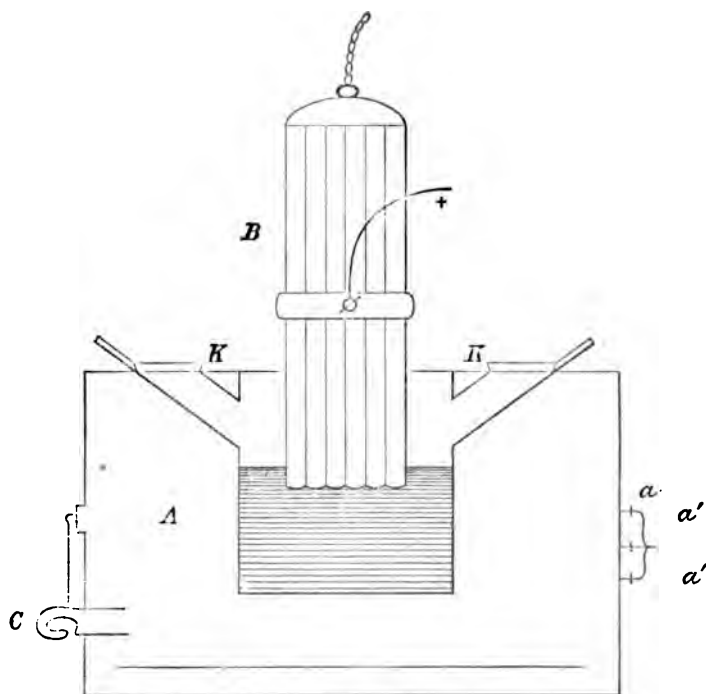
The reports received are supplemented by a republication ["Aluminium in Germany"] from CONSULAR REPORTS No. 65, for July, 1886.)

SWITZERLAND.

In 1888 there was organized in Europe a company or corporation called the Aluminum Industrie-Actien-Gesellschaft (Aluminium Manufacturing Company). Its authorized capital was \$2,000,000, of which \$800,000 was paid up. Its purpose was the production of aluminium in large quantities and at low cost to the consumer. The canton of Schaffhausen, Switzerland, was induced by this company to grant it the privilege of drawing from the Rhine above the falls (known as the Rhine Falls), at the town of Neuhausen, 20 cubic meters of water per second. In its totality the power thus secured is equal to 4,000-horse power. The method employed in manufacturing aluminium at Neuhausen is an electric process. It is that of M. Hérauld, a French inventor, who is a shareholder in the Neuhausen company. This process is partly disclosed and can be described; but it also is partly undisclosed and kept a strict secret by the inventor.

What is disclosed of the process is substantially as follows: Water from the Rhine sufficient to operate two turbines, or wheels, of 600-horse power each, and a third of 300-horse power, is conducted through large iron pipes. By means of the two wheels first named two large dynamos are set in motion which generate an electric current of 14,000 ampères and 30 volts (1,500,000 Watts). This current is run over copper ropes to the electrodes of the apparatus in which the aluminium is produced, a sketch of which is given below. Loose smelted argil (clay), without any other mixture, is then brought into contact with the current at the electrodes. The positive electrode is of carbon (coal plates) and the negative of copper.

At the positive the oxygen of the argil combusts with the carbon and forms carbon oxide; at the negative the copper (melted) takes up from the argil the aluminium.



A is a large crucible. At *a*, *a'*, *a'* copper pins admit the electric current to the crucible. *B* is the positive electrode, consisting of coal plates, joined together at the top by a frame and arm. A chain for raising and lowering the electrode is attached to this arm by a ring. *A* (the crucible) is covered with graphite plates (*K*) in which are holes for the admission of material to the crucible. These holes are closed by covers which can be removed to permit the escape of gases. At the beginning of an operation pieces of copper (which become the negative electrode) are put in the crucible. These are then caused to melt by lowering the positive electrode *B* and consequent production of a heavy current. Argil (clay) is next put in the crucible, and quickly melts. The aluminium (more or less alloyed) is drawn off through the aperture *C*.

By this process all the aluminium alloys can be produced, excepting such as involve metals which escape in the melting process.

The different trade qualities of the aluminium made by the Neuhausen company are as follows :

Quality.	Aluminium.	Silicon.	Iron.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
O.....	99.9	0.06	0.04
I.....	99.61	0.18	0.21
I.....	99.33	0.53	0.14
I.....	99.25	0.56	0.14
I.....	99.14	0.58	0.23
II.....	96.79	1.84	1.57
II.....	94.32	3.25	2.43
II.....	92.84	3.82	3.34

Aluminium of qualities O and I can be forged in a hot or cold state ; but aluminium of quality II can only be forged with great difficulty, as with 2 per cent of silicon the metal becomes brittle.

Besides aluminium alloys, the Neuhausen concern produces (as appears from the above table) practically pure aluminium. The details of the process by which this is done are not obtainable. They are the undisclosed part, of which mention has been made, of the method employed at Neuhausen. That the company in question is able to produce aluminium (both alloyed and pure) in such large quantities as it does and at such little cost is doubtless due in part to the exceptionally favorable arrangement by which its operating power is secured to it. It is due in part also to the experience and inventive genius of M. Hérauld.

According to the last annual report of the directors of the Neuhausen company (that for 1892), the company had sold of their products—

Year.	Amount.	
	<i>Francs.</i>	
1890.....	493,000	\$38,600
1891.....	1,035,000	207,000
1892.....	2,100,000	420,000

Sales, it is stated, are no longer made by kilograms, but by carloads. It is also stated that in 1892 the dividend to the shareholders was 8 per cent.

But there have arisen in connection with the operation of the Neuhausen company some unexpected difficulties. Shortly after the factory was started the vineyards and vegetation in general of the country about the factory site began to blight and die. The immediate property-owners at once entered suit ; but before trial was had the factory-owners bought at high prices all the property affected. The factory was then enlarged, which served to spread the ill effects to a territory beyond that which had been purchased.

Certain hotel-keepers then complained and asked that their property be bought also. On July 11, 1893, at an extra session of the Regierungsrath, (the cantonal legislature), before which the whole matter seems to have

come, it was decided that the landowners complaining did so with just cause, and that the Neuhausen establishment must be closed, unless means could be devised to absorb or neutralize the gases to which it gave rise and which were destroying vegetation.

An expert—Prof. Meister—has been set at work to consider the question of absorption. He states that he has been heretofore employed as an expert in this same line; that he knows the dangerous nature of the gases complained of, fluoric acid being the principal gas to which the harm done is to be attributed. He states further that, owing to the wide extent of territory involved, complete and effectual absorption will be both very difficult and expensive. He thinks, however, that with plenty of money the task can be achieved.

Meanwhile the matter rests. Should the Neuhausen company be unable, either from lack of financial or other means, to neutralize the injurious gases incident to the operation of their plant, it would seem that they must cease manufacturing.

A branch factory which was opened near that of Neuhausen, but in the canton of Zurich, has been subjected to litigation and is now closed. Whether the closing was because of the litigation or from other causes is not positively known.

IRVING B. RICHMAN,
Consul-General.

ST. GALL, *July 28, 1893.*

ENGLAND.

I visited the manager of the Aluminium Company (limited), at Oldbury, and he informed me that, owing to the abandonment about a year ago of the manufacture by the sodium process, no aluminium is now made in his establishment, and that nearly the whole of the industry formerly carried on in England had been transferred to Schaffhausen, Switzerland, where the falls of the Rhine are utilized in the production of electrical power, by which aluminium is now made almost exclusively.

I see a great variety of articles of merchandise made from aluminium for sale in the English retail markets, and find by inquiry that these are nearly all made at Schaffhausen, which thus appears to have become quite suddenly the center for this industry.

I may also say that I have made diligent inquiry to discover whether any articles had been published in the scientific or technical newspapers descriptive of the latest processes for making aluminium, but have not been able thus far to discover any.

I send inclosed herewith an article published to-day in the news columns of the Daily Post of this city.

GEORGE F. PARKER,
Consul.

BIRMINGHAM, *November 3, 1893.*

THE ALUMINIUM COMPANY.

[From the Birmingham Daily Post of November 3, 1893.]

Mr. Gerald W. Balfour, M. P., presided yesterday afternoon at the sixth ordinary general meeting, held at Cannon Street Hotel, London. In moving the adoption of the report, an abstract of which has appeared in our columns, the chairman said the misfortunes and disappointments of the company had been so often his theme on the occasion of previous annual meetings that it was with added pleasure that on the present occasion he was able to come before them with words of encouragement and hope. The tide had begun to turn when he last addressed them, but in the financial year that preceded the last meeting the trading account still failed to show a profit. In the present year they were able to show a trading profit of £7,000, and the business was a growing one. In the four months that succeeded the end of the last financial year they did not make any profit, but, on the contrary, a loss of £2,500. The existing contracts had run out, there was a cessation of business, and the directors did not think it desirable to manufacture for stock. During the following eight months of the year, however, they made a profit of about £10,000, or at a rate of £15,000 a year, the output being two and a half times more than during the preceding four months. Still further increase in the output had been made since, and during the months of July, August, and September the increase was three and one-third times as much. According to a careful estimate it was found that during the past two months the output had increased to four and a half times what it was, and they were making a trading profit of from £25,000 to £30,000 a year. There was every prospect that next year they would be able to meet all fixed charges, provide for depreciation, and leave something for division among the shareholders. At present they no longer produced aluminium at their Oldbury works, near Birmingham, but they devoted themselves to the trade in sodium by trying to find new uses for it and lessening the cost of production. The directors placed great hope in the profits to be derived from a new electro-chemical process which had been invented by Mr. Castner. The process, which had been brought to perfection and answered all expectations, was now being worked on a practical scale at Oldbury, but it was proposed to more fully develop the commercial value of the invention before making the results public. The directors proposed that the capital should be written down from £5 to £1 per share to meet losses and valueless assets. It was, however, hoped that the new invention would eventually recoup the shareholders the capital they were asked to write down. Sir Henry Roscoe, M. P., in seconding the motion, expressed his confidence in the new invention, and said that next year they would, he believed, be able to show a considerable profit. The manufacture of sodium and the peroxide of sodium, a new bleaching material, as well as caustic soda, was proceeding satisfactorily, with every prospect of its continuance. They were much indebted to all engaged in the works at Oldbury for the way in which the works were carried on. (Applause.) The report was adopted; and at an extraordinary meeting subsequently held a resolution was carried authorizing the writing down of the capital as mentioned by the chairman.

ALUMINIUM IN GERMANY.

[Republished from CONSULAR REPORTS No. 65, July, 1886.]

I have the honor to report that in Hamelingen, near Bremen, a factory is in the course of erection which projects the production of aluminium and magnesium on a large scale.*

The statement, however, that this will be the first factory of its kind in the world must be considered erroneous, since Messrs. E. H. & A. N. Cowles, of Cleveland, Ohio (Cowles' Electric Smelting and Aluminium Company), have for some time successfully produced aluminium and its alloys in large

* The consul at Bremen under date of July 25, 1893, reports this factory as having been closed for some time.

quantities and at reduced prices. It is well known that heretofore aluminium and magnesium were produced only in small quantities at high prices.

GRAETZEL'S PATENT.

The consumption was comparatively limited. The new factory, like that of Cowles', projects production in large quantities under Graetzel's patent.

The process of the Frenchman Deville, heretofore generally in use, consists in decomposing sodium-aluminium-chloride in reverberatory furnaces by adding to it, in a suitable manner, a flux (formerly fluor spar, noncryolite) whereby the sodium used for reductions is placed by zinc.

By this process the price of aluminium has been not less than 75 to 80 marks (\$17.75 to \$20), a metal too costly for many technical purposes.

Graetzel readopted the idea of Bunsen, to separate the aluminium by electricity. He applies a very powerful dynamo-electric current, which he conducts through molten sodium-aluminium-chloride, whereby the desired metal is deposited at the negative electrode (cathode), but chlorine at the positive electrode (anode).

This process has been patented nearly everywhere. The aluminium, by its slight specific gravity—it is only two and one-half times heavier than water—has for a long time encouraged the hope that it could be produced in large quantities at a low price, and thus become more generally available for technical purposes.

Louis Napoleon spent large sums for experiments. Deville's process was the result. Napoleon thought that it could be used for the manufacture of military cuirasses and helmets.

PHYSICAL QUALITIES OF THE METAL.

The aluminium combines lightness with great durability, beauty, and plasticity. It can be drawn into fine wire (down to one-fifteenth of a millimeter in thickness) and beaten into thin lamels.

It is capable of taking a fine polish and can be engraved and by galvanism silvered and gilded. In the air it does not tarnish, and in water it remains unaltered. Though it is not a precious metal, it is notwithstanding not more subject to corrosion by acids and alkalis than iron. It is, however, not fireproof; by combustion it is reduced to valueless alumina. Its fine, white, silver-brilliant, nontarnishing color makes it very adaptable for ornaments of all kinds, opera glasses, etc.

Besides the pure aluminium, its alloys are also useful for many technical purposes. A particularly beautiful bronze, brilliant like gold, is obtained from 90 to 95 per cent of copper and 10 to 5 per cent of aluminium.

Other compounds are stated to be eminently suitable for parts of machinery.

The magnesium is likewise by the electric current separated from a combination with chlorine.

F. RAINE,
Consul-General.

BERLIN, *March 5, 1886.*

No. 159—4.

TRADE OF GLASGOW—1893.

The total exports for the year just closed (September 30, 1893) were \$5,918,137.53, an increase of \$118,733.78 as compared with last year.

There has been an increase in books, cotton goods, hides and skins, laces and trimmings, linen goods, machinery and ironware, muslins, paper and paper stock, potatoes, seeds and fruits, provisions, rags, union goods (cotton and woolen), and thread, and a decrease in carpets, carpeting and rugs, cotton in bales, chemicals, coal, fire-clay goods, furs, hats and caps, herrings, pig iron, lace curtains and nets, silk goods, steel, tobacco pipes, wool, and woolen goods.

The greatest decrease has been in the following articles: Wool, \$211,320.22, of which \$175,239.66 was in the months of August and September: cotton in bales, \$91,157.53; carpets, carpeting, and rugs, \$58,211.60; steel, \$83,722.68; pig iron, \$43,110.81 (nearly one-half); woolen goods, \$34,884.90 (nearly one-half).

The greatest increases have been in potatoes, seeds, and fruits—\$389,317.80, against \$6,775.07 for last year. This has been due to the large exportation of potatoes to meet the wants of our people, amounting from January 1, 1893, to September 30, 1893, to \$357,037.19.

The other principal increases are:

Books.....	\$68,072.12
Machinery and ironware.....	68,234.92
Provisions.....	74,383.67
Rags.....	35,734.57
Thread.....	47,900.01
Union goods (cotton and woolen).....	75,849.50

In imports of principal articles there has been a gain in flour, cheese, leather, tobacco, canned meats, lumber, logs, canned goods, and oats, and a loss in beef, live cattle, wheat, Indian corn, oatmeal, butter, lard, bacon, salt pork, hams, tallow, raisins, oil cake, apples, staves, and clover seed.

Owing, no doubt, to the financial depression in the United States, there has been a very large falling off both in the number of invoices and the value of exports declared at this port for the months of August and September as compared with last year.

Year.	Number of invoices.	
	August.	September.
1892.....	439	404
1893.....	318	237
Loss.....	121	228

The invoices for this year, commencing January 1, 1893, increased quite largely during the earlier months, but for the last three months there has been a steady decrease. How long this will continue is, of course, problematical and depends probably upon the future financial and business conditions of the United States. Shippers here report a decided falling off in orders from the United States during August and September, with not much improvement so far this month.

In the value of exports the decline in August as compared with last year was \$149,455.06 and in September \$257,743.12.

Ever since I have been here (from June, 1893) there has been a marked depression in the carrying trade at this port, which so far has been steadily increasing with each succeeding month.

Trade in general for the year has not been as good as last year, the financial depression in Australia and later on in the United States having a marked effect upon the manufacturing interests of this city in the decrease of exportations of all manufactured products.

ALLEN B. MORSE,
Consul.

GLASGOW, *October 11, 1893.*

FAILURES IN THE GERMAN EMPIRE.

I send an abstract taken from official figures in reference to the failures from 1881 to 1892. The number of failures in 1892, as shown by these reports, has exceeded the already extraordinary number of 1891 by 61, and has reached the unprecedented ratio of 15.3 to every 100,000 inhabitants. A comparison with the failures in former years shows the upward movement during the last eight years.

Year.	Number of failures.	Increase.	Decrease.
		<i>Per cent.</i>	<i>Per cent.</i>
1881.....	5,252		
1882.....	4,821		8.2
1883.....	4,688		2.8
1884.....	4,370		6.8
1885.....	4,627	5.9	
1886.....	4,789	3.5	
1887.....	4,897	2.3	
1888.....	5,216	8.6	
1889.....	5,263	0.9	
1890.....	5,936	12.8	
1891.....	7,623	28.4	
1892.....	7,684	0.8	

From this it appears that the number of failures steadily decreased until 1885, and that since 1885 they have been on the increase. From 1885 to 1892 this increase has been fully 64.8 per cent.

The statistics also show the number of failures as they have occurred among the various trades, as follows:

Trade.	Number of establishments.	Number of failures in 1892.	Ratio of failures to each 10,000 establishments.
Agriculture and forestry.....	5,276,344	472	0.9
Mining and smelting.....	5,289	10	18.5
Stone industry and earthenware.....	52,994	108	20.4
Metal workers.....	164,235	262	16
Machinery and tools.....	82,874	176	21.2
Chemical industry.....	9,191	12	13.1
Oils, fats, and varnishes.....	7,162	18	25.2
Textile industry.....	344,482	129	3.7
Paper and leather.....	60,539	180	29.7
Wooden ware.....	238,969	298	12.5
Provisions.....	245,286	681	27.7
Clothing and cleaning.....	579,139	657	7.5
Building trades.....	162,535	275	16.9
Polygraphical industry.....	9,612	37	38.5
General commercial.....	452,725	3,544	78.3
Traffic.....	76,108	67	8.8
Hotels.....	169,894	368	21.7
Rentiers.....	(*)	43	.....
Public officials.....	(*)	52	.....
Teachers.....	(*)	12	.....
Churches.....	(*)	8	.....
Insurance.....	(*)	1	.....
Army and navy.....	(*)	8	.....
Sanitary.....	(*)	2	.....
Authors.....	(*)	2	.....
Music and theater.....	(*)	2	.....
Sculptors and artists.....	(*)	7	.....
Journeyman.....	(*)	90	.....
Not classified.....	(*)	163	.....

* Not ascertainable.

From this it will be seen that failures in commercial and industrial enterprises are more numerous than in agricultural, and again in commercial more numerous than in manufacturing establishments, and that they are hardly of any extent in agriculture.

It would probably not be correct, however, to draw a definite conclusion from these figures, as they should be put together for a term of years to obtain reliable results. It is to be regretted that the "number of establishments" had to be taken from the census of 1882, as the one of 1890 is not complete in this respect. However, as the figures for 1891 and 1892 show corresponding proportions if distributed as above, this statement will give a fairly correct idea of the general and probable extent of failures in the various trades.

The great number of "general commercial" failures (3,544) should be still further divided to see what branches of trade show a higher or lower ratio; but this, I am sorry to say, can not be done, as in most cases the term "merchant" is used without specifying the particular branch of business.

As far as stock companies are concerned, the failures in 1892 have increased 40 per cent over those in 1891.

JULIUS MUTH,
Consul.

MAGDEBURG, *October 10, 1893.*

EXPORT AND IMPORT DUTIES IN SALVADOR.

On the 6th of March, 1893, I reported the increase of the export tax on coffee from 1 peso in silver to \$2 in gold on each quintal.* The duty of 1 peso was established in 1889 to create a fund for the construction of the national palace, destroyed by fire in said year; but, although the Government has collected over 1,500,000 pesos, not a stone has been bought for the building. The Salvadorean Congress, in March, in consequence of the gold standard agitation, the demands of the executive for more revenues, and the alleged fact that the rich do not pay taxes in the same proportion as the poor, increased the duty on coffee to \$2 in gold, without mentioning a word relative to the national palace.

All goods coming from abroad and those leaving the country paid 25 cents in silver per quintal before October, 1892; on that date it was decreed that such tax should be paid in gold. This makes \$2.25 duty on the exportation of each quintal of coffee. By a new disposition (August 28 of this year) the tax of 25 cents in gold is converted into a kind of compulsory loan, said to be destined to the finishing of the Santa Fecla, or rather the Santa Ana, railroad.

With regard to goods admitted "free of duties" into Salvador, it can be said that, strictly speaking, no such thing exists, because all goods, whether "free" or not, pay, besides the 25 cents in gold per quintal already mentioned, 2 per cent destined to the keeping of the roads and 15 per cent *ad valorem* under the title of "fiscal taxes," which are distributed every month as follows: Thirty-nine per cent to hospitals, municipalities, asylums, seaport betterments, and parks and 61 per cent to the treasury. This last goes under the name of "sobrante," or residue.

G. J. DAWSON,
Vice-Consul.

SAN SALVADOR, *October 7, 1893.*

NEW PROCESS FOR MAKING CITRIC ACID.

Dr. Carl Wehmer, a Hanoverian botanist, is said to have recently discovered that sugar solutions exposed to the action of certain microscopic fungi, the spores of which float in the atmosphere, become transformed into citric acid precisely identical with that extracted from the lemon.

*The Spanish quintal = 101.61 pounds.

The first experiments made to prepare artificially in this way citric acid are said to have given excellent results, 11 kilograms* of sugar producing 6 kilograms of crystallized citric acid.

The new process has already been patented in several countries, including Italy; and at the factory of Thann, the distinguished chemist Scheuren-Kestner is now carrying on experiments with a view to applying the process on a large scale. Everything tends to show that this new process will assume great development and will make it possible to supply the trade with citric acid at a much lower cost than that actually ruling, and will in all probability supersede in a few years the present method of producing lemon juice and citrate of lime.

The article from which I quote closes by saying: "We make haste to notify our readers, so as to put lemon-growers on their guard, and to prevent new investments being made in this branch of agriculture, which must receive a great blow from this new method of preparing citric acid, and thereby sustain heavy losses."

To show what is meant by "heavy losses," I would refer to my report dated January 8, 1889.† In the year 1887, from Messina alone, 4,438 pipes of 130 gallons of lemon juice (used to fix colors in calico-printing), and valued at \$635,834, were exported. A large quantity of crystallized citric acid was also exported.

Unmerchantable lemons are turned to great account, in Sicily more particularly, by extracting the essence from the peel and by converting the juice into concentrated lemon juice. Should this resource now be taken from the Sicilian lemon-grower, he will indeed sustain a heavy loss.

While Florida and California lemon-growers will not be affected by this new discovery, should it ever prove all that is claimed for it, because their industry is still in its infancy, the question appears of sufficient interest to arrest attention.

WALLACE S. JONES,
Consul-General.

ROME, *October 9, 1893.*

LABOR CONFLICT IN EUROPE.

The question of supremest importance to commercial Europe at the present time is how to deal with those perpetual interruptions to industry occasioned by labor conflicts of one kind or another.

These quarrels between labor and capital, due in a great measure to the action of professional agitators, have been alarmingly frequent during the present year in various industrial centers of Europe. The war which was declared two months ago in the department of Pas-de-Calais, France, against the coal companies, in which upwards of 35,000 men went on strike, is sup-

* 1 kilogram = 2.235 pounds.

† "Orange and Lemon Culture in Sicily" (CONSULAR REPORTS No. 102, p. 296).

posed to be held in abeyance until the Russian visitors have left France. It is believed that when their backs are turned serious disturbances may again break out. As it is, scarcely a day passes without more or less serious assaults, and it is even stated that dynamite cartridges have been exploded in several instances.

This is the third strike which has taken place in the coal regions of France within the last two years, each of which has been attended by shocking incidents. At Decazeville some time ago a manager was lynched by a mob of miners. About the same time considerable violence was manifested at Anzin. During a strike of the miners at Carmaux last year a bomb was discovered at the company's office in Paris, which afterwards exploded with fearful effect at the police station, whither it had been carried.

There was in the recent strike not only the usual and perhaps proper claim for an increase of pay, but a demand for the retention of certain miners by the companies. It was further demanded that the companies should provide the union or federation of colliers with duplicate copies of registers, in which the names of miners are inscribed with the pay received by each. The real object of this demand may be traced to the wish to discover the precise amount paid to each workman, some of whom do not belong to the union. They wished, as their spokesman expressed it, "to ascertain the names of those who were traitors to the common cause."

About the 20th of August last the little town of Aigues-Mortes, in an almost forgotten corner of France, became the theater of the most sanguinary conflict that has yet occurred between French and Italian workmen, which for a time threatened to lead to grave complications affecting principles now respected by European nations. Whether the French or Italians began the fray is only a matter of mere detail. The facts may be briefly stated as follows:

In the south of France, where French and Italian labor is in incessant competition, the workmen of the two nationalities are separated in rival camps, and it is only the dislike of imprisonment that keeps them from rushing at one another's throats and slaking their hatred with blood. The notion that this antipathy arises mainly from the difference of race and is much influenced by political sentiment is erroneous. What sets these men so against one another is the animal struggle for existence, which is no less ferocious than it was ages ago, when savage hordes of hungry barbarians contended for food. It is the question of wages, and incidentally bread, which is the cause of all the fierce animosity between French and Italian workmen in France that frequently leads to bloodshed, but has never brought about such a massacre as that of Aigues-Mortes, in which 50 men were killed and 150 wounded.

From Charleroi the report comes that after various and conflicting scenes the strike in the Belgian coal mines has at last come to an end. The determination of the "State Council," on the 16th of October that work should be resumed at reduced wages was received with noisy demonstrations by

thousands of turbulent miners, and the socialist organs and deputies are still preaching the gospel of violence. The leaders of the strike, however, have decided to use their efforts against further prolongation of a struggle by which thousands of innocent persons, chiefly women and children, are made bitterly to suffer, while nobody gains anything. It is now believed that the coal pits will be reopened in a few days, and that the wheels of trade and commerce, which have for months stood still, will again be started.

It is impossible to follow the details of the coal strike and its many ramifications which began in England in July last and which carried the price of coal up from 18s. to 40s. per ton. These demonstrations were attended in almost every district by a considerable amount of rioting, which could only be quelled by the aid of troops, who were compelled to fire on the rioters, with the sacrifice of many lives.

Whatever may be the ultimate issue of this wasteful struggle, one incidental result of it is already visible. It has, according to the *St. James Gazette*, given a distinct impetus to that growing tendency of the modern industrial community to turn to the national government for the adjustment of its quarrels, if not for the entire direction of its affairs. The cry for state intervention is uttered in divers ways through divers journals. Hope inspires it on one side and something like despair, no doubt, on the other. But the novelty and interest of the situation lie in the fact that the cry is rising from both sides; that the weariness of capital is becoming as marked as the eagerness of labor; and that the former is beginning to look as wistfully as the latter for some power stronger than either to interpose between them. The capitalist has apparently made up his mind to meet the laborer halfway, and they are daily drawing nearer from opposite sides to that natural zone of socialism in which the domains of their opposing interests seem to be merged. For good or for evil, both sides have embraced the idea of a paternal government.

C. W. CHANCELLOR,

Consul.

HAVRE, *October 18, 1893.*

NOTES.

American Sugar Machinery in St. Croix.—In transmitting his annual returns for the year 1893, the consular agent at Fredericksted—Mr. William F. Moore—reports as follows:

Considerable machinery connected with the manufacture of sugar has been imported from the United States, and a triple-effect plant has been erected. An engineer from New York has introduced a simple system of a natural hot-air plant and furnace, by which green bagasse from the cane mill can be burnt under boilers, successfully demonstrating a great economy in fuel and labor. All planters indorse the process, and many of them have adopted it with satisfactory results. One plantation has made 700 hogsheads of sugar by this system, without burning any other fuel. The same plantation expended over \$7,000 for fuel last year in making 1,200 hogsheads of sugar.

American Goods in Germany.—Under date of October 21, 1893, Consul Wamer, at Cologne, reports as follows:

There is complaint that American sellers do not grant sufficient credit. Business is done in this country on long credit, whereas the American sellers require, in most cases, payment before the goods are delivered. Purchasers here are, as a rule, averse to paying for goods before they are in their possession and before they have been inspected by them, as sometimes the goods are found to be below the standard contracted for; and often there is no redress for the purchasers in such cases. It is asserted that such disadvantages offer a greater chance to competitors in German-made goods. An importer here informs me that he has to employ an agent in the United States to see that the goods he purchases are delivered in good condition and according to order, which necessarily makes his importations more expensive.

Effect of the Silver Question on the Linen Trade.—Under date of October 18, Consul Taney, at Belfast, writes:

I wish to call attention to the depressed condition of trade in this consular district, arising principally from the financial distress and commercial stagnancy in the United States.

It may safely be said that fully 40 per cent, or even one-half, of the production of the linen and flax mills and factories in Belfast and vicinity finds a market under ordinary conditions in the United States. Manufacturers and wholesale merchants here have had within the last few months numerous orders canceled by the importers in the United States, and, as a consequence, the mills and factories generally are running only two-thirds time, and in some cases only half time. This is causing great distress among the factory hands, of whom there are many thousands. These people are enabled to earn a bare living under favorable or normal conditions, and any detraction from their daily or weekly wage is keenly felt.

The exports from this district to the United States, as shown by the consular records, fell off in the quarter ended September 30, 1893, as compared with the previous quarter, over \$200,000, and as compared with the corresponding quarter of last year over \$850,000. The number of invoices certified in this consulate during the quarter last past was 1,106, as compared with 1,506 for the corresponding quarter of last year.

Decreased Trade of Mexico with the United States.—Under date of October 16, Consul John Drayton, of Tuxpan, in submitting his report for the September quarter, says:

Trade and commerce seem still to be declining. The exports of the last quarter were \$286,388.05; of this quarter, \$254,250.97; showing a decline of \$32,137.08; which is steadily decreasing. The great difficulty is the increase of revenue on this side and the decrease of money value in the United States, which causes merchants to be undecided in their actions.

There is produce here to be shipped, but they will not ship any more than their necessities call for until money matters settle on a surer basis. Business is in an exceedingly depressed condition.

There is no regularity in the exchange. It varies between 65 and 72 cents, according to circumstances.

American Trade with Venezuela.—Under date of October 17, 1893, Consul Hanna, of La Guayra, reports as follows:

On account of the United States having placed a duty on Venezuelan coffee, hides, and skins, nearly all of the products shipped from this country now find market in Europe, and American vessels engaged in Venezuelan trade are compelled to return to the United States empty or with sand ballast. I think the sale of Venezuelan products in Europe, which once found a market in the United States, has caused a heavy decline in the purchase of American goods by Venezuelan merchants, for it is natural for them to buy their goods where they sell their coffee. However, I believe that more American goods are sold within this consular district than in any other in South America north of Rio de Janeiro. La Guayra, said to be the hottest seaport in the world, with a mixed population of about 8,000 souls, is, however, the gate to this Republic and the greatest distributing port of Venezuela. There are fifteen regular lines of ocean-going steamships entering this port, five of which run to the United States.

Asphalt in Sicily.—Under date of October 19, Consul-General Wallace S. Jones, at Rome, forwards the following translation from the *Revue des Deux-Mondes*:

Some years ago the French scientist Mr. Coquand, in an article in the *Bulletin de la Société géologique*, gave it as his opinion that asphalt was petroleum in a solid state, which, rising in the form of vapor from the depths of the earth, had instilled itself into the fissures of calcareous rock. In fact, it is only necessary to distil the latter to obtain petroleum. Asphaltic rock is more particularly found in the district of Syracuse, near Ragusa, known as Rinazza, or pitch country, where there is a table-land of great extent, the stone of which is sawed and used for chimney-pieces, doorposts, and staircases. This stone is very easily cut and carved, but when it contains too great a proportion of asphalt it gums the saw; it must then be sweated, that is, exposed to heat, to rid it of its excess of bituminous matter. Belonging to the Miocene formation, this rock presents itself in mighty heaps, in the midst of molasse, which goes to prove that the petroleum was deposited in it at the very moment the rock was formed.

Mr. Coquand estimates the quantity of mineral oil that could be extracted from this section of country (as yet nothing has been undertaken in this direction) at 191,000,000 kilograms.

Errata in "Canals and Irrigation."—Mr. W. T. Walthall, formerly consul at Demerara, writing from Memphis under date of November 4, 1893, requests that the following corrections may be made in his report on irrigation in British Guiana, dated August 2, 1889, and published in Special Consular Reports entitled "Canals and Irrigation:" Page 326, fourth line of third paragraph, the word "not" should be inserted between the words "perhaps" and "very;" on page 326, fourth line of fourth paragraph, the word "waste" should be "coast;" on page 326, second line from bottom of page, between "middle walk" and "transversely," insert "branch canals run;" on page 327, first line, "line for drainage" should be "line or drainage;" on page 328, fourth line of third paragraph, the word "principals" should be "principles;" on same page, third line of last paragraph of report, the word "town" should be "crown."

Sugar Duties in Victoria.—Under date of October 9, 1893, Consul-General Maratta, of Melbourne, transmits the following bill proposed in committee of ways and means (legislative assembly) by the honorable the treasurer of the colony:

That, in lieu of all duties of customs heretofore chargeable on the importation of the following articles into Victoria, whether by land or sea, the several duties of customs hereinafter mentioned shall, on and after the 14th day of September, 1893, be charged on the importation into Victoria, whether by land or sea, of the following articles:

Articles.	Per cwt.	Per pound.
Sugar:	<i>Shillings.</i>	<i>Cents.</i>
Not being the produce of sugar cane.....	12	2.6
Produce of sugar cane.....	6	1.3
Produce of sugar cane and refined in Victoria in a bonded warehouse.....	5	1.09
Glucose.....	6	1.3
Molasses:		
Refined.....	6	1.3
Refined in bond.....	4	.87
Unrefined.....	2	.43
Candy.....		8

That a rebate of 3s. (72.9 cents) per cwt. be allowed to brewers on all sugar used in the manufacture of beer and to manufacturers on all sugar and glucose used in the manufacture of jam preserves and confectionery on and after the 14th day of September, 1893, such rebate to be allowed under regulations to be approved by the governor in council.

First Decade of Postal Savings Banks in Austria-Hungary.—Consul-General Judd, of Vienna, writes October 14:

At the end of the year 1892 the number of the depositors was 913,447, with a total capital of 29,335,299 florins and a nominal deposit of Government bonds (which were purchased and transmitted by the institution to its depositors) of 11,051,370 florins, besides 19,545,615 florins' worth of Government bonds. The average capital of the depositors has risen from 11 florins to 32 florins, which tends to prove that the postal savings bank has acted

as an incentive to continued economy. The number of its depositors increased by 65,731. the capital in cash by 4,493,234 florins, and the nominal deposit of Government bonds by 1,412,690 florins, which is by far the largest increase that has yet taken place.

The trade in the check business has risen from 87,000,000 florins in the year 1884 to 2,237,000,000 florins in 1892.

At the end of this period 21,365 persons, with a capital of 42,684,528 florins, utilized the post-office for the check business, having a bank-note deposit besides of 3,267,230 florins.

The amount of money that has changed hands in the period of the existence of the institution through checks is figured at 11,361,000,000 florins.

This large increase in business has permitted the payment of all expenses incident to the founding of the bank, amounting to 938,761 florins, the forming of a reserve fund of 2,543,323 florins, and leaves at the close of the year 1892 a net earning of 1,139,884 florins.

Austria-Hungary is the only country in which the check business is carried on by the post-office. The work is done so well and cheaply that by far the greater part of the traffic of this kind is done through the postal service.

Consular Reports Transmitted to Other Departments.—The following reports were referred during the month of November to other departments for publication or for proper action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
George W. Roosevelt, Brussels..	Nov. 9, 1893	Estimate of Belgium harvest, 1893.	Department of Agriculture.
G. H. Murphy, Luxemburg.....	Oct. 31, 1893	Roman mosaic floor at Nennig..	Smithsonian Institution.
F. H. Underwood, Leith.....	Nov. 4, 1893	The mackerel and mackerel fisheries.	Fish Commission.
Do.....	Nov. 4, 1893	Agricultural depression.....	Department of Agriculture.
William T. Townes, Rio de Janeiro.	Oct. 13, 1893	Average sugar crop in Brazil...	Treasury Department (Bureau of Statistics).
David N. Burke, Pernambuco..	Oct. 23, 1893	Sugar crop, etc., in Brazil	Do.

THE POULTRY INDUSTRY

IN

FOREIGN COUNTRIES.

CIRCULAR.

On May 29, 1893, the following circular was addressed by the Department to certain consular officers of the United States:

The Department has been requested to secure through your good offices information concerning the poultry industry in foreign countries (England, Scotland, Ireland, and France excepted).

You will therefore prepare, for your respective districts, such reports as will fully answer the following questions:

- (1) Is special interest taken in fowls in your consular district?
- (2) What varieties of domestic fowls are kept? Describe them as minutely as may be practicable, mentioning, for example, the color, size, and general shape, presence or absence of comb, of a crest, and of feathers on legs. What is the color of legs and skin?
- (3) Do any of these varieties breed true to type and color?
- (4) Are any of these fowls bred as pure races? If so, which ones?
- (5) Are they sitters or nonsitters?
- (6) What is the principal purpose for which each variety is kept—eggs or food?
- (7) Are there any kinds bred as "fancy" fowls? If so, describe their characteristics.
- (8) Is artificial incubation employed as a common method of propagating fowls?
- (9) Mention the character of the climate in your consular district.
- (10) Where, from whom, and how can fowls be obtained in your consular district for export to the United States?

This was addressed to the following consulates of the United States:

EUROPE.

Austria-Hungary.—Buda-Pesth* and Prague.*

Belgium.—Ghent.

Denmark.—Copenhagen.

Germany.—Aix la Chapelle,* Barmen,* Berlin,† Bremen,* Brunswick, Crefeld, Frankfort, Hamburg, Nuremberg, and Stuttgart.

Greece.—Patras.

Italy.—Catania,* Leghorn, Messina,* Naples,* Palermo,* and Turin.

Malta.—Malta.

Netherlands.—Amsterdam.*

Portugal.—Fayal* and Oporto.*

Roumania.—Bucharest.*

Russia.—Helsingfors, Moscow,* Odessa,* Riga, and Warsaw.

Servia.—Belgrade.†

Spain.—Barcelona, Cadiz, Carthagen, Corunna,* and Malaga.

Sweden and Norway.—Bergen,* Christiania,* Gothenberg,* and Stockholm.

Switzerland.—Basle, Geneva, St. Gall,* and Zurich.*

Turkey in Europe.—Constantinople.

AFRICA.

Barbary States.—Tangier.

British Africa.—Bathurst,* Cape Town,* Durban, Johannesburg,* Port Louis,* and Sierra Leone.

* No response to circular.

† Receipt of circular acknowledged. No interest taken in the fowl industry in his district.

Egypt.—Cairo.

French Africa.—Algiers* and Gorée-Dakar.*

Kongo State.—Boma.*

Madagascar.—Tamatave.*

Orange Free State.—Bloemfontein.

Portuguese Africa.—Funchal, Mozambique, and Santiago, C. V.*

Spanish Africa.—Teneriffe, Canary Islands.*

Zanzibar.—Zanzibar.

AMERICA.

Argentine Republic.—Buenos Ayres.

British America.—Demerara and Kingston, Jamaica.*

Brazil.—Bahia,* Para, Pernambuco, Rio Grande do Sul, and Santos.*

Chile.—Coquimbó* and Talcahuano.

Colombia.—Bogotá* and Cartagena.*

Costa Rica.—San José.*

Dutch Guiana.—Paramaribo.

Ecuador.—Guayaquil.*

Guatemala.—Guatemala.*

Haiti.—Cape Haitien† and Port-au-Prince.†

Honduras.—Tegucigalpa.

Mexico.—Guaymas,* Merida,* Nuevo Laredo,* Piedras Negras, and Tuxpan.*

Nicaragua.—Managua.*

Paraguay.—Asuncion.

Peru.—Callao and Piura.*

Salvador.—San Salvador.

Santo Domingo.—Santo Domingo.*

Spanish West Indies.—Matanzas, Cuba, and San Juan, Puerto Rico.*

Uruguay.—Montevideo.

Venezuela.—Ciudad Bolívar,* La Guayra, Maracaibo, and Puerto Cabello.*

ASIA.

British Asia.—Aden,* Bombay,† Calcutta, Ceylon, Hongkong,† and Singapore.

China.—Amoy, Canton,* Chefoo,* Chin-Kiang, Hankow, New-Chwang,* Ningpo,* Shanghai, and Tien-Tsin.*

French Asia.—Saigon.*

Japan.—Kanagawa and Osaka and Hiogo.

Korea.—Seoul.

Maskat.—Maskat.*

Netherlands India.—Batavia and Padang.*

Persia.—Teheran.

Siam.—Bangkok.

Spanish Asia.—Manila, Philippine Islands.

Turkey in Asia.—Bagdad,* Beirut, Jerusalem, Sivas, and Smyrna.*

AUSTRALASIA AND POLYNESIA.

Australasia.—Adelaide,* Auckland, Brisbane,* Hobart,* Melbourne,* Newcastle,† and Sydney.

Polynesia.—Honolulu,† Levuka, Noumea,† Norfolk Island,* and Tahiti.*

* No response to circular.

† Receipt of circular acknowledged. No interest taken in the fowl industry in his district.

EUROPE.

BELGIUM.

INTEREST IN FOWLS.

Poultry-raising is extensively followed in Belgium, especially in the western part, comprising the Flemish provinces of Antwerp, Brabant, and East and West Flanders. In the Walloon district there is less interest taken in the industry. In a measure, this arises from the fact that the eastern provinces are less adapted by nature to successful agriculture, whereas the Flemish country is preëminently an agricultural one, where the soil has been redeemed from its primitive sandy state to an artificial condition of great fertility, owing to generations—even centuries—of patient toil and innumerable applications of all kinds of fertilizers. The land is subdivided into tiny farms, the average size of the majority being only an acre or an acre and a half, which permits of scrupulous attention, such as in the United States is given only to gardens. The farmers devote themselves to the raising of poultry as a branch of their industry. In Flanders every cultivator aims to keep fowls for the purpose of obtaining the maximum number of good eggs, which are regularly sold in the nearest market. The excess of young cocks and hens is sold as “poulets de grains,” or “grain chickens.” As food, I have found these to be inferior in taste and quality to American chickens of the same class, doubtless because of the inferiority of the domestic grain. Certainly there is a vast difference between these and the “poulets de Bruxelles,” which are scientifically fattened in the communes north of Brussels and extensively sold there, besides being exported to neighboring countries. These annual exports amount to over \$100,000. These fowls make excellent food and command double the prices of ordinary chickens.

Every Flemish town has a square called the “egg market,” where, on certain days, the country people resort and offer their produce to the inhabitants. It is a curious sight at Ghent on Fridays to see hundreds of “pay-sans” massed in the market before the town hall, each with a basket of eggs offered for the inspection of purchasers, who thread their way through the closely serried ranks.

Antwerp is an important center for the exportation of eggs to England. Some firms in that city frequently have over 1,000,000 eggs stored in cellars ready for shipment. The exportation to France is chiefly from southern Flanders.

The following table of exportations of Belgian eggs and dressed fowls is taken from the official statistics for the year 1891:

Destination.	Eggs.		Dressed fowls.	
	Quantity.	Value.	Quantity.	Value.
	<i>Number.</i>	<i>Francs.</i>	<i>Kilograms.</i>	<i>Francs.</i>
Germany	781,880	62,550	98,733	197,466
England.....	33,172,371	2,653,790	9,376	18,752
France.....	31,251,215	2,500,097	190,875	381,750
Luxemburg	11,210	897		
Hamburg	66,240	5,299		
Holland	1,353,165	108,253		
Other countries.....			22,884	45,768
Total	66,636,081	*5,330,886	†321,868	‡643,736

* \$1,028,610.

† 709,719 pounds.

‡ \$124,241.

According to the last general agricultural census, taken in 1880, the average annual production of eggs in Belgium for the period from 1871 to 1880 was 840,000,000, laid by 3,967,000 hens, or a yearly average per hen of 211 to 212 eggs. This average seems exaggerated. Although it is true that many of the Campine hens lay as high as 300 eggs each in a year, it must be remembered that the majority of farm fowls lay only 120 to 150 eggs per year. The same statistics state the annual production of poultry to be 2,631,000 heads, valued at \$920,000, or 35 cents each.

VARIETIES.

Turkeys.—The turkey was introduced into Belgium from America at the beginning of the sixteenth century. Although the climate is favorable to them, there are only a few raised, and, on the whole, little attention is given to this excellent fowl. The retail prices of good, dressed turkeys ranged, according to weight, during the past winter from \$1.40 to \$3 each—estimated at 24 cents per pound. I believe that the importation into this country of turkeys from the United States would be highly profitable.

Ducks and geese.—Neither ducks nor geese are raised extensively, but far more attention is paid to the former than to the latter, natural conditions being more in their favor, especially the existence of numerous water courses.

Pigeons.—Pigeons are raised to a large extent, both the ordinary kinds for food and the fine species of Carriers. The latter industry has from time immemorial been very popular in Belgium, and great attention is paid to the education of the birds. "Homing Antwerps" are capable of flying 50 to 60 miles per hour for long distances. There is not a town in Flanders which does not contain scores of amateurs and one or more societies for the production and education of Carriers. At Ghent alone there are no less than thirty such organizations, which arrange frequent contests of speed, offering premiums and prizes of all descriptions.

VARIETIES OF CHICKENS.

There are seven distinct varieties of Belgian fowls.

The Campine.—This breed, which represents the finest Belgian type, derives its name from the Campine, a vast sterile and solitary district extending east and northeast of Antwerp to Holland and the province of Limbourg. It is a region little adapted to agriculture, although that is the prevailing industry. It might be interesting to note that it was in the center of this barren tract that the Trappist Fathers established one of their monasteries a century ago, and where up to date they have brought to a state of productiveness over 1,500 acres. As a compensation for the sterility of the soil, the Campine possesses an extraordinary breed of fowls, wonderfully adapted to the existing conditions. In the whole world it would be impossible to find creatures that display more indefatigable activity in searching for food than the fowls of the Campine. One moment they are close at hand picking in the stinky soil for a stray bug and the next they are away in the dim distance. They are what the Belgians call a "rustic" fowl, leading a sort of Bohemian life, demanding little or no attention, roosting in the barnyard and content to get an occasional handful of oats or buckwheat to help eke out an existence. Nevertheless, they are a bonanza to the farmers, for they lay fine, large, white eggs so frequently that they have won the sobriquet of "poules-pond-tous-les-jours," or "lay-an-egg-every-day" hens. As I have stated, it is not uncommon for a Campine hen to lay 300 eggs in a year; the average is fully 250. There are three sub-varieties: "Campine argentée," or "Silver Campine;" "Campine dorée," or "Golden Campine;" "Campine courtes-pattes," or "Short-Legged Campine." The first two may have either a single or a double comb. The "Courtes-pattes" are single combed. The standard primitive type is the "Silver Campine," with single comb. It is a graceful fowl, with beautiful white plumage regularly dotted, and on the border barred with greenish black. At a distance the white appears to be silver gray, hence its name. The "Golden Campine" is like it, except that its plumage is yellow instead of white. The only characteristic of the Short-Legged Campine is that from which it derives its name. It usually has the colors of the Silver Campine.

The typical Campine cock attains, when full grown, a height of 18 to 20 inches; weighs on an average $4\frac{1}{2}$ to $5\frac{1}{2}$ pounds; has a bright-red comb, single or double; round, red wattles of medium size; *very black* eyes; *large*, round, white ear lobes; smooth, *blue* legs and four toes on the feet. The qualities italicized are essential for purity. The adult hen is 16 to 18 inches high and weighs generally $3\frac{1}{2}$ to $4\frac{1}{2}$ pounds. Her comb is smaller than that of the cock. The entire breast must be well marked, and the marking must extend to the tip of her tail. The double-combed Campines have been introduced into England and brought to a higher degree of perfection by selection. They are known there as "silver-penciled" or "gold-penciled" Hamburgs, according to the prevailing color. I believe this to be a misnomer—that such fowls never originated in Hamburg or its vicinity. The

Belgian Campine is the cradle of the breed. In the province of Friesland, in the north of Holland, there is a variety called the "Friesch Pel," smaller than the Campine; but it has such a striking resemblance in appearance and qualities as to create the belief that it is another descendant. Our American experts will probably recognize from the above description of the Campine fowls some variety already known to our farmers under another name, for I am almost certain that such a valuable species must have long ago been introduced. However, if such is not the case, I earnestly advise its importation for its extraordinary fecundity and adaptability to any agricultural section of the United States. Moreover, it fattens easily and makes excellent food, besides being an ornament to the barnyard. If it is never crossed with other breeds, but perfected by careful selection, it will never cease to give satisfaction.

The Braekel.—This is generally considered as a subvariety of Campine. In fact, many make the classification into (a) "Double-Combed Campines," either silver or golden, and (b) "Single-Combed Campines," or "Braekels." However, after careful study, I consider that the Braekel fowl possesses an individuality sufficient to class it as a distinct breed. It takes its name from a village in East Flanders, between Grammont and Audenarde. It is larger than the northern Campines, lays larger eggs and gives plumper "grain chickens." In other respects it is the same as the Single-Combed Silver Campine. A golden variety of Braekel is rare. The Braekel fowl has not attracted as much attention as the Campine; probably because its plumage is not as fixed in markings. Latterly many amateur breeders have sought to remedy this inartistic blemish by crossing with other breeds. This is a serious error. The breed in its purity is a great egg-producing one—as much so as the Campine. Every crossing endangers this valuable quality. The farmers in their turn are beginning to cross the hens with a taller breed with a view to obtaining larger specimens for market. Between the amateurs seeking symmetry and the farmers size they may literally "kill the hen that lays the golden egg." By perseverance the amateurs will certainly succeed in producing more beautiful Braekels, as regularly marked as their northern cousins, and the farmers will get taller ones; but their success will be at the expense of the precious egg fecundity of the breed. The rational method of improving the breed is by scrupulous selection of the breeders. All those with a blemish must be rejected, and in time the breed will perfect itself. The cock is ordinarily 18 to 22 inches tall, weighs $5\frac{1}{2}$ to $6\frac{1}{2}$ pounds, has a single red comb of medium height regularly notched, red wattles of ordinary length, black eyes, round ear lobes (either white or red), and blue legs. The feathers on the body are white and black, but those on the tail are almost always entirely black. The amateurs aim to obtain a border of white. The hen is 14 to 18 inches high, weighs $4\frac{1}{2}$ to $5\frac{1}{2}$ pounds, has a smaller comb, which overhangs, and also smaller wattles. The ear pieces, eyes, and legs are identical with those of the male. The markings of her breast are particularly irregular, and this is often the case with the tail. From what has

been said it will be seen that the Braekel breed may also be recommended to Americans.

The Coucou of Malines.—This is an ancient breed of Belgium, improved by judicious crossing with the Cochin China and White Brahma. Its characteristics are now sufficiently fixed to justify classification as a pure breed, which, of course, it is not by origin. Some authorities claim that prior to the introduction of the Cochins and Brahmas the Coucou of Malines was unknown, or, at all events, had no stability, and that the present breed is merely the result of a union of Cochin or Brahma cock with any native hen, either a Coucou or some other breed. If this were correct, the constant infusion of Cochin or Brahma blood would be necessary, which is decidedly not the case. The Coucou of Malines is the fattest fowl known. It is raised exclusively for its flesh, which is very tender and highly prized by gourmands, who know it under the name of "*poulet de Bruxelles*." It is extensively raised and fattened in the neighborhood of Malines and Brussels. The process of fattening is simple and natural. The fowl is put in a small but well-aired box or compartment in a dark place. The food, consisting of a paste made of flour and milk, is put within easy reach of the fowl and it fattens itself. At the end of three or four weeks it is in fine condition for market. An entirely different method has long been practiced in the Campine, where fowls are forcibly stuffed and crammed with food to a condition of fatness in the manner pursued with Strasbourg geese. Needless to say the food can not be as well assimilated, and consequently the flesh of the fowl is not so juicy and tender. In plumage the breed bears the markings of a cuckoo—the sign of its maternal ancestors—which must cover its entire body, and the bars must be well defined. The hen should be in particular regularly marked. We can readily distinguish the paternal origin, for many of the characteristics of the Cochin China and Brahma are present. The fusion has given height. The cock when full grown stands 22 to 26 inches, and weighs $6\frac{1}{2}$ to 9 pounds, but when fattened 10 to 12 pounds on an average. Mr. Michiels* informs me that he has often seen them attain 15 pounds, and in some instances even greater weight. The cock has the following further characteristics: Single red comb of ordinary height, but well notched; fine red wattles and ear lobes; wavy feathers upon the upper part of legs, running down to the feet in a thin line; pinkish-white legs, and scanty tail. The hen attains a height of 18 to 22 inches; weighs when full-grown, unfattened, $5\frac{1}{2}$ to $6\frac{1}{2}$ pounds; when fattened, 8 to 10 pounds; has smaller crest and wattles. The comb must never overhang. Her other characteristics are the same as those of the cock. The hen is only an ordinary layer. Its mission in the world is clearly to supply food. If imported into our country it should be only with this end in view.

The Combatants of Bruges.—Nature has endowed Flanders with massive creatures, and the inhabitants to be in proportion would have to be giants. Massive draft horses, enormous cattle, and lastly a breed of giant fowls—the

*A Belgian expert.

Combatants of Bruges. It is beyond dispute the largest fowl in Europe, and only the Cochin Chinas, Brahmas, and Langshans from beyond the sea can compare with it in size. As its name indicates, it is raised and kept exclusively for the pit. Its original home was in the neighborhood of Bruges, West Flanders. The best types are now to be found at Louvain, Brabant. Some amateurs keep as many as fifty or sixty cocks, from which they, like the possessors of successful race horses, derive a large revenue. Although these cruel combats are forbidden by law, they are of frequent occurrence in the vicinity of Grammont, East Flanders, and Liege. Formerly the cock was armed with steel spurs, but this is no longer the custom. The breed has been introduced into England and crossed with the English gamecock, which is smaller and quicker in movement. Its flesh is rather dark, nourishing, but dry and not delicate. The hen lays enormous white eggs, weighing on an average 80 metric grams* apiece. The cock is 24 to 30 inches in height, weighs 9 to 11 pounds, has a small head, low red comb regularly notched (which is cut for the combats at an early age), vicious eyes, red wattles and ear lobes, long muscular neck, flat back, scanty tail, strong, dark-colored legs, and four toes on the feet. The feathers, which are short and closely set to the body, are blue, black, or red—usually blue or black, with red on shoulders. The hen is 20 to 24 inches high, weighs 8 to 9 pounds, and in other particulars differs from the male only in having a uniform color. Her feathers, like those of the cock, are stiff and lay closely to the body. She possesses the same vicious qualities. This breed has more the appearance of a bird of prey than of a domestic fowl. It tyrannizes over all the other poultry and must be kept apart from them, for it often destroys their crests and pecks out their eyes.

The Barbu Dwarf of Antwerp.—The "Barbu Nain," or "Bearded Dwarf of Antwerp," is a pure Belgian breed of very graceful little fowls similar to the Scotch Gray Dwarfs, with which they have often been confounded. They are not unlike our Bantams. One expert informs me that they are miniature Plymouth Rocks; but he is obviously in error, for the Plymouth Rock is a purely American creation, and the elements that generated it have nothing in common with the Antwerp breed. The usual color is black or cuckoo, but by persistent crossing amateurs have recently succeeded in producing white and multicolored fowls. Their aim is to secure the smallest possible specimens, and in the zoölogical gardens of Antwerp and Ghent there are some very tiny ones. The cock has a very regular double comb, usually red, sometimes black; small and very regular red wattles, red ear lobes, well-developed beard and "cravat," full tail, feathers entirely black or cuckoo to tip of tail, without any sign of red; smooth, bare, pinkish-gray legs; and four toes. The characteristics of the hen are the same, except that her crest and tail are smaller.

The Wallikiki.—The Wallikiki, or Walloon, is a curious breed, encountered frequently in the province of Liege. It has not the slightest sign

*2.8 ounces.

of a tail, and its origin is a mystery. It has been known in the Walloon country from time immemorial. Some have advanced the theory that it was imported long ago from Ceylon, but there are no grounds for this belief beyond the fact that on that island there are numerous troops of a similar variety. It is nothing more than a mediocre barnyard fowl, and does not merit more than a passing notice.

The Ardennes.—This is a type of ordinary farm fowl, which, however, is generally recognized as a distinct breed. It resembles somewhat the Braekel, but is yellowish in color, though without bars. A work published at Liege many years ago compared it to the wild cock of Bankiva. It has more or less of an individuality, but lacks uniformity. It is admitted at all Belgian expositions, but I have been told that amateurs place all varieties of vulgar fowls under this class, and that the juries receive and award them premiums as fowls of Ardennes. The breed is chiefly met with at the farms and villages of the Ardennes Mountains.

BREEDING TRUE TO TYPE AND COLOR.

With the exceptions above noted, all the Belgian breeds are entirely fixed. They are not new or artificial breeds, but ancient and natural; hence they are eminently stable, and the same type invariably reproduces itself.

PURITY OF BREED.

All these varieties are now bred as pure races. Strictly speaking, it is difficult to obtain a fowl of absolute purity of race devoid of the slightest blemish in form or markings and without the slightest foreign strain. Approximate practical purity is certainly obtained from all the Belgian breeds. It is true that the Coucou of Malines is historically a cross, but to-day its characteristics are so fixed that it is practically a pure race. As a result of the extent to which its breeding has been carried, there is no hen in the world from which it would be possible to obtain yearly a larger number of subjects all equally pure and to all intents and purposes identical. This breed is an illustration of how quickly a cross may become fixed and stable. The introduction into Europe of the Cochin China dates from the exposition by the Queen of Great Britain of a male and female at an exhibition of poultry in Dublin in 1844. The Brahma, if I remember rightly, was first introduced to civilization in the State of Connecticut at a comparatively recent date. It was scarcely twenty-five years ago that the Cochins and Brahmas were first crossed with the native Belgian Coucou.

SITTERS AND NONSITTERS.

The Campine hen sits very little, as is generally the case with first-class egg-producers.

The Braekels are good sitters, but do not sit very often.

The Coucous are excellent sitters. The tendency to incubation is very great. Each hen can hatch eighteen eggs.

The hens of the Bruges Combatants are fair sitters, but very irritable, and if disturbed often break their eggs. However, they make unrivaled mothers, protecting their broods against all enemies.

The Antwerp Barbu hens are excellent sitters and mothers. They are sometimes utilized as partridges and other small game.

The Wallikiki hen is an ordinary sitter—good to conduct pheasants.

The hen of the Ardennes breed is a fair sitter.

PURPOSE FOR WHICH FOWLS ARE KEPT.

The Campines and Braekels are kept principally for their eggs; the Coucous of Malines exclusively to supply food; the gamecocks of Bruges are raised solely for the pit; the Barbu of Antwerp are kept for their diminutive size; and the Wallikiki and Ardennes fowls as ordinary poultry.

FANCY FOWLS.

The Bruges gamecocks, the Antwerp Dwarfs, and sometimes the Silver Campines are the only representatives of pure Belgian races which are bred as fancy fowls.

However, there are hundreds of amateurs who raise and keep Cochins from China, Brahmas from India, Bredas from Holland, Italian Leghorns from the United States, Spanish and Andalusians from Spain; Houdans, Crève Cœurs, La Flèches, and Mans from France; and Dorkings from England. Wyandottes and Plymouth Rocks—those magnificent productions of American skill—are very little known in Belgium or, in fact, in France. I believe that the introduction of these varieties to the countless amateurs here would be profitable. After the English the Belgian amateurs are the best connoisseurs in Europe, and their expositions are very fine and important.

ARTIFICIAL INCUBATION.

There are several hundred artificial incubators in actual use in Belgium. Amateur breeders of choice fowls particularly have recourse to them as auxiliaries to the hens, and as such they render considerable service. The great majority of the farmers in the Campine never use them. They are rarely employed for the Coucous of Malines.

Several instances have come to my notice of the abandonment of the employment of the machines after they had been given trials. I will cite the case of Mr. Michiels, of Ledeberg, who formerly employed them extensively, but who tells me that he now confines their use to young turkeys, for which he finds them well adapted. There are, in fact, two factions; and it might be interesting to hear the other side.

A dealer in Brussels has explained to me the mechanism of an improved artificial incubator, for which he has the sole concession for several continental countries. He says that he has sold over 1,200 of them for use in Belgium within the last eight years, that they have given universal satisfaction, and that the use of incubators is constantly increasing.

This incubator, which is advertised as an English invention, differs from others by the employment of a thermostatic capsule to regulate the temperature in the egg drawer. As is well known, the difficulty is to maintain an equable temperature in this drawer. External causes, especially irregularities in the supply of artificial heat, are the chief source of trouble. But this gentleman informs me that trouble often comes from the embryo chickens themselves. Between the tenth and fourteenth day of incubation a notable change takes place in the egg and the chicks begin to give out heat. Naturally the supply of artificial heat must be correspondingly diminished.

The following figures show the time required for hatching the eggs of different fowls: Hens, 21 days; turkeys, 28 days; ducks, 28 days; geese, 35 days.

Results of one experimenter with the artificial incubator.

Month.	Number of eggs used.	Sterile eggs removed.	Fertile eggs.	Chicks obtained.	Fertile eggs hatched.
June.....	117	24	93	76	<i>Per cent.</i> 81.7
July.....	117	25	92	64	69.5
August.....	122	35	87	82	94.2
September.....	110	18	92	80	87
October.....	106	26	80	71	88.7

A temperature of 104° F. has been found to be the best for incubation, and if it never exceeds 107° nor falls below 101° a good result may be expected.

The prices of the incubators in question range from \$12 (13 eggs) to \$72 (200 eggs).

When the chickens are hatched they are taken out of the drawer and put into the adjoining drying compartment, where they remain a few hours. They are then put into an auxiliary of the incubator, called an "artificial mother." This is a box divided into compartments heated by pipes running overhead. Here the chickens remain until old enough to run about alone. The prices of the "foster mothers" vary from \$12 (12 chicks) to \$46 (200 chicks).

CLIMATE OF BELGIUM.

Belgium, which is about the size of the State of Maryland, lies between 49° 25' and 51° 30' north latitude, equal to that of northern Newfoundland; but, like other countries of western Europe, it enjoys a higher temperature by several degrees than its latitude would indicate. The climate is temperate, humid, and salubrious.

In physical contour the country may be compared to an inclined plane, gradually rising from the North Sea to Germany on the east. The western portion, comprising this consular district of the Flanders, presents vast monotonous plains, slightly undulating on the south and east, highly culti-

vated, and irrigated by innumerable water courses, natural and artificial. On the southeast, in the Walloon district, there are wooded mountains, abrupt valleys, and rocks. Brussels is on the line dividing the high from the low lands. Such variations in the configurations of the land tend to give the country a diversity of climate. East and West Flanders are particularly subject to abrupt variations, being in close and unprotected proximity to the North Sea. Rain clouds are wafted in and produce very frequent local storms.

The climate of Brussels may be considered as the average of the country. It is more equable than that of New York. The annual average temperature is a trifle above 50° F. The winters are never so severe. The greatest cold usually prevails in the latter half of January, and in average years does not exceed 5° F. above zero. The mean temperature of January is 36° F. In Flanders what little snow falls melts rapidly, owing to the humidity of the atmosphere. In the Ardennes, however, it snows frequently and even late in the spring. Indeed, it is a remarkable fact that a Fleming will experience the same difference in climate by making a visit to the Ardennes at any time of the year as that which he would experience were he to go at a corresponding season to Norway.

The greatest heat at Brussels prevails usually during the latter part of July, and does not exceed on the average 86° F. The mean temperature of July is about 65° F. Spring and autumn are of short duration.

On an average it rains 192 days of the year. The total rainfall, however, is very little greater than that at New York. In Belgium it rains frequently, but lightly—more often drizzles than rains.

The winds from the southwest are warm and rain-bearing, and from the east cold and dry.

DEALERS AND EXPORTERS.

Ten years ago Belgium annually imported enormous quantities of eggs from Italy and Germany, particularly during the winter, when the native hens laid very little. Even during the laying season in spring and summer the production in Belgium was insufficient for the demands of consumers. In 1882 a company was formed at Verviers, province of Liege, called the "Société Belge-Italienne," for the purpose of importing from Italy hens which would lay throughout the winter. This company now does a very large business. The founder, Mr. Edouard Paquay, has furnished me with interesting details of the *modus operandi*. Verviers is the headquarters, but the company has branches in all the important poultry centers of Italy, where the fowls are purchased for shipment to Belgium. The journey is broken at Chiasso and Basle, which are the relay stations. The fowls are shipped from the branch house—for instance, at Padua—in cars specially arranged with metallic cages. Arriving at Chiasso, they are fed without being removed from the train; thence they journey to Basle, where they are again refreshed, and quickly depart for Verviers, arriving in excellent condition. The proportion of mortality is only one per thousand. On arrival they are trans-

ferred to wooden cages, and in less than two hours are on their way to the farmers of Belgium or adjoining countries. The following prices for fowls, delivered anywhere in Belgium, are taken from the latest price list of the company. If we need any such winter varieties, importations could be made direct from Italy.

Young hens (or cocks).	Age.	Price.
Three breeds combined (ordinary).....	3 months	\$26 per hundred.
Italians (pure breed, yellow legs).....	3 months	30 cents each.
	4 months	35 cents each.
Belgians (crossed with Italians).....	Extra choice.....	40 cents each.
	4 months	32 cents each.
Spanish.....	Extra large.....	35 cents each.
	3 months	30 cents each.
	4 months	35 cents each.

The following are the principal markets for those varieties of Belgian fowls which might interest Americans:

Campines and Brackels.—Antwerp, Audenarde, Sottegem, and Ghent—the last three in East Flanders.

Coucous of Malines.—Brussels, Assche, Merchtem, Diest, and Louvain, all in Brabant; Malines and Antwerp, in the province of Antwerp; and Alost, East Flanders.

Barbu of Antwerp.—Antwerp.

The following amateur and professional raisers of fowls may be addressed by Americans in full confidence, and they will be glad to enter into relations with our importers:

Campines and Brackels.—Mr. Charles Moons, Calmphout, province of Antwerp, and Mr. Louis Van der Snickt, La Hulpe, Brabant.

Coucous of Malines.—Mr. Breydel, La Hulpe, Brabant; Madame Rose Vleminckx, Etterbeek, near Brussels; Mr. Leopold Sar, Malines, province of Antwerp; and Mr. Edouard Delmotle, Mariakerke, near Ghent. The two first named export.

Mr. Louis Van der Snickt, editor of *Chasse et Pêche*, published at Brussels, and Mr. Paul Mouseu, of Haine St. Pierre, Hainaut, have the reputation of being the most competent authorities on fowls in Belgium.

ACKNOWLEDGMENTS.

I am indebted to the following gentlemen for courtesies shown to me in the preparation of this report: Messrs. Paul De Vuyst, inspector of agriculture, rue d'Edinburgh, Brussels; Louis Van der Snickt, Brussels; A. Michiels, agronome at Ledeberg, near Ghent; Leplae, agronome at Ardoye, West Flanders; Emile Thienpont, agronome at Etichove, East Flanders; Felix Goossens, president of the agricultural committee of Assche, Brabant; Pierre Revir, Brussels; Société Belge-Italienne (Edouard Paquay & Co.), of Verviers, province of Liege; and Henry Wilford, Brussels. They are all

experts in their particular branches, and may be addressed by American importers.

The recognized organs of the poultry interests in Belgium are *Chasse et Pêche* and *Le Mentor Agricole*, both published at Brussels.

JOHN B. OSBORNE,
Consul.

GHENT, *July 15, 1893.*

DENMARK.

INTEREST IN THE BUSINESS.

Very considerable interest, especially during the last fifteen or sixteen years, has been taken by the people of Denmark in improving breeds of poultry. This interest has been general throughout the country, but in each district only a few persons have made the business a specialty.

VARIETY OF BREEDS.

Legs feathered.—Buff and partridge-colored Cochin Chinas, and dark and light Brahmas and Langshans. All of these are rare and not extra good in fancy points.

Legs not feathered.—Those most generally kept are Brown Leghorns, Black Minorcas, and native Danish fowls.

Besides these, but not so numerous, are the various other Leghorns, such as cuckoo, black, white, and buff; different varieties of Hamburgs, as black (very fine), gold, and silver spangled; gold and silver penciled Andalusians (blue laced), Houdans, black Crève Cœurs (rare), Dorkings (colored, also rare), barred Plymouth Rocks (not abundant or fine in points), gold and silver laced Wyandottes, varieties of Polands, and a few other breeds of little significance.

The general characteristics, such as size, shape, color of plumage, legs, ear lobes, shape of comb, etc., of the above-named breeds are about the same as described in the "American Standard of Excellence," with the exception of buff Leghorns (which may not have found entrance into the "American Standard"), and the native Danish fowl.

BREEDING TRUE TO TYPE AND COLOR.

Brown and buff Leghorns, the native Danish fowl, and the Andalusians (blue) are bred the best to type and color at the present time in this country.

BRED AS PURE BREEDS.

All the varieties named are cultivated as "pure breeds," but the brown and buff Leghorns, the Danish fowls, and the blue-laced Andalusians breed the highest in comparative excellence.

SITTERS AND NONSITTERS.

The Cochín Chinas, Brahmapootras, Langshans, Plymouth Rocks, and Wyandottes are decided "sitters." The Danish fowl is generally a good sitter and an excellent mother. The Mediterranean breeds—Leghorns and Spanish, *i. e.*, Minorcas and Andalusians—the French Houdans and Crève Cœurs, and the Hamburgs are "nonsitters."

PURPOSE FOR WHICH FOWLS ARE KEPT.

The "sitters" described above and the French Houdans are generally kept for food or as fancy fowls; the other varieties, especially the Leghorns, Andalusians, Minorcas, and the Danish fowls, are kept almost exclusively for egg production—the chief aim of the poultry business in Denmark. The other breeds not specified in this paragraph, but previously mentioned, are chiefly kept as fancy fowls.

FANCY FOWLS.

Fine specimens of fancy fowls are but rarely found in this country. The breeds in Denmark which will probably be of most interest to American fanciers, as combining more rare fancy points with usefulness, especially as egg-producers, are those named under interrogatory three. The points bred up to are the same as contained in the "American Standard." The buff Leghorns agree with other Leghorn varieties in shape, size, comb, ear lobes, wattles, and color of legs.

The Andalusians are bred for points such as are specified in the "American Standard." Fine birds of this breed are rare everywhere. The points of the Danish fowl are: Cock, medium size, smooth head; strong, clear, yellow beak; erect single comb, bright-red face, reddish-brown iris; white ear lobes, often without a touch of red; rounded wattles, not large; smooth, full back head, with no indentation at the junction of the head and neck; richly feathered, strong neck, carried upright; deep body, broad shoulders; strongly-developed wings, well tucked up; high-set tail, with beautiful broad sickles and many finely flowing tail coverts; medium long, smooth, yellow (sometimes leaden or gray colored) legs; proud carriage; bold, active disposition; a loud, clear, abrupt, crowing voice; height to top of head, 22 inches; length, 18 inches; width across the shoulders, 6½ inches; weight, 5 to 6 pounds. The hen has a smaller head; neat, small, upright comb (single); brown or yellowish iris; small white ear lobes, broader and deeper body than the cock, carriage more horizontal, strongly-developed egg bag; tail nicely erect, tall, broad, half fan shaped; legs short, smooth, and colored like those of the cock; height, 15 inches; length, 16 inches; width of shoulders, 5½ to 6 inches; weight, about 4½ pounds. There are different colors of this breed—brown, cuckoo, speckled, and white. The brown is the purest breed and much the finest. In plumage this variety nearly corresponds with brown Leghorns. Splendidly beautiful cocks of the brown variety are occasionally met with. Fowls of this breed are excellent foragers

and require comparatively little feeding where they enjoy full liberty. They are very good egg-producers. Their eggs are white and strong shelled, rich, but not very large. They are good sitters and mothers.

ARTIFICIAL INCUBATION.

Artificial incubation is not much in use.

CLIMATE.

The climate is humid. The mean temperature of Copenhagen is 32° in winter and 63.5° in summer. Wind and rain storms are frequent.

DEALERS.

Those desiring any further information in regard to Danish fowls can correspond with Mr. J. Pedersen-Bjergaard, No. 92 Stockholmesgade, Copenhagen, a large dealer and exporter.

ORLANDO H. BAKER,

COPENHAGEN, *June 10, 1893.*

Consul.

GERMANY.

INTEREST IN FOWLS.

The breeding of fowls in the duchy of Brunswick is a most flourishing and extensive industry. For the last few years, however, the breeding has diminished somewhat, in consequence of the appearance of Italian fowls in the poultry markets at very low prices.

The breeding of geese has suffered some damage, since the pastures in the single villages have become separated. The village of Salzdahlum is especially famous for its geese. In some places in Brunswick a good deal of interest is taken in the breeding of turkeys.

Barnyard fowls and ducks have been very much improved during the last fifty years, owing to importations from England, France, and Holland, the country stock being crossed with the very best breeds.

The breeding of pigeons is also an extensive business, there being no legal restrictions as to keeping them; and they find good food in the grain fields of this fertile district.

VARIETIES.

An original Brunswick fowl does not exist. The fowls brought to the market and consumed here are crosses of the German and the imported races. In the years 1840-'50 the principal breed was the Dutch every-day layers, a fowl originally from Belgium, afterwards reaching Holland and Friesland, and at present spreading all over northern Germany. The principal characteristic of this fowl is its egg-laying. Later on the English game fowls were imported, which, crossed with the common fowls of Brunswick, improved the latter, especially in flesh. Tufted fowls were imported by

amateurs early in this century. These were known under the names of Brabanter and Dutch fowls. The ducal "Fasanerie" has imported during the last few decades good table poultry from France. Finally, the breeding of fowls was greatly stimulated by the importation of the Cochin China. A consequence of this was the establishment of poultry societies and clubs. The first of these, established in the city of Brunswick in 1860, is now prosperous. By exhibitions of these societies the knowledge of the breeds has increased in the duchy.

A good many distinct domestic fowls are bred in this duchy, though the industry is not so extensively carried on as it is in the province of Hanover. I have observed that American fowls, such as Plymouth Rocks and Wyandottes, are brought to the poultry exhibitions. These are also bred. The Plymouth Rock has grown in favor as a table fowl.

Of special German races bred in the duchy of Brunswick may be mentioned the Ramelsloher fowl, which comes from the Vierlanden, near Hamburg, and is the "Hamburg chicken," a delicacy highly appreciated during the first months of the year. These are bred in November and December by the peasants in their "Katen" houses and sold as table fowls. They are somewhat more than middle sized, are similar to the Spanish race, and are found only in two colors—white and yellow and white. They have a single comb, without a crest, bare blue legs, and fine, white skin. This fowl is strong, hardy, and of good weight. It must be remarked that, contrary to American taste, which likes yellow-legged fowls, the taste here is for white, blue, or black legs, because with these the skin appears whiter than it does with yellow-legged fowls, the skin of the latter appearing yellowish. The Ramelsloher fowl is a good layer, but not as good as the nonsitting breeds, such as the Dutch every-day layer (Hamburgs) and Italian fowls (Leghorns).

The parties from whom I have received the material for this report inform me that the flesh of the Italian fowls, which are on the point of overflowing the poultry markets of this place, is not as good as that of the native races. This view of the case is verified by the American breeders, who have improved the low grade of the Italian breeds and exported them to Europe as the so-called Leghorns.

Besides these Ramelsloher fowls, the following are regular German breeds:

Lakenfelder, in the Rhine countries; middle sized, with a single comb, without crest, bare blue legs, white body feathers, black neck and tail. It is a good country breed.

Bergische Kräher, coming from the principality of Bergh (western Germany), and so called on account of the lengthened crowing of the cock. This breed is more than middle sized. It has a single comb, blue legs, and black and yellow feathers. It is evidently of Spanish blood.

Thüringer Bäusbackchen, a middle-sized fowl, with a thick wattle, mostly black, blue black and yellow, black and white, and bare blue legs.

In the duchy of Brunswick, however, the fowls of the above-named varieties generally bred are the Ramelsloher and Lakenfelder.

FANCY BREEDS.

These varieties breed true to type and color. There are other varieties bred by amateurs as pure races—some as fancy fowls and others good for their flesh and eggs. Among these are the English Game and Game Bantams, the Malays, Dorkings, Penciled and Spangled and Black Hamburgs; of French breeds, the Crève Cœurs, Houdans, and La Flèche. Besides these may be mentioned the Cochin Chinas, Brahmappootras, Langshans, Plymouth Rocks, and Wyandottes, original Spanish Minorcas and Andalusians, and the Italian breeds already mentioned.

BREEDERS AND DEALERS.

Attention is especially called to two prominent breeders of this city:

Mr. H. du Roi, whose fancy fowls (long-tailed Japanese Phoenix and Yokohama) are famous throughout Germany, and who breeds also different varieties of game fowls and crossbreeds, jungle fowls, and Spangle-Booted Bantams as specialties.*

Mr. W. Dreves, who breeds Hollander, Polish, and Paduan fancy fowls, especially crested (tufted) breeds.

One of the best breeders and dealers in Germany is H. Marten, of Lehrte, province of Hanover, Germany.

CLIMATE.

The climate of this consular district is similar in general to that of the eastern part of the United States.

ACKNOWLEDGMENT.

I am indebted to Mr. Hugo du Roi, of this city, who is the president of the union of German and Austrian breeders, for many of the foregoing facts, and for the photographs and feathers accompanying this report. He has been most painstaking and courteous, and he assures me that he will gladly furnish any other information desired in regard to the poultry industry.

CYRUS W. FIELD,

Consul.

BRUNSWICK, *September 12, 1893.*

INTEREST IN FOWLS.

The interest taken in fowls in this district (Crefeld) seems to be directed to the securing of a variety or breed which will make the best egg-producers. The end and aim of every German farmer is to obtain large profits from his

* Photographs of this Bantam were inclosed in this report, with the following remarks by the consul: "White Phoenix-Yokohama cock and hen, cross of long tailed Japanese Phoenix (single combed) with Japanese Yokohama breed. The tail feathers of the cock ($3\frac{1}{4}$ years old) measure $7\frac{1}{2}$ feet.

fowls; therefore, he seeks to keep the variety which will be of the greatest aid in that respect.

VARIETIES.

Nearly all of the varieties of nonsitting fowls are kept—Silver and Golden Hamburgs, Brown Leghorns, Black Spanish, Black and White Moroccos, and Houdans. The principal variety is the Hamburgs, called the “Dutch everyday layers.” On account of the in-breeding of the different varieties, there are, of course, many shades of color. The prevailing colors of legs are light yellow and bluish. The color of skin is usually light, except in Black Moroccos and Black Spanish, which is of a bluish shade. The combs are rose, half rose, single, and half single. The average weight of both varieties is about 4 pounds.

BREEDING TRUE TO TYPE AND RACE.

All of the above varieties of fowls would breed true to type, if kept separate.

Very little attention is given to the breeding of any particular variety of fowls true to race.

PURPOSE FOR WHICH FOWLS ARE KEPT.

Fowls are kept principally for eggs, although old fowls and chickens are sold in the market for food.

No variety of fowls is bred here known or designated as “fancy” fowls.

ARTIFICIAL INCUBATION.

Artificial incubation is not in use, as all interested parties prefer the natural method.

CLIMATE.

The climate on the west of the Rhine River is not subject to extreme heat or cold. The thermometer rarely goes above 75° in the summer or below 15° in the winter season.

EVANS BLAKE,
Consul.

CREFELD, *October 9, 1893.*

INTEREST IN FOWLS.

Very little special interest in the breeding of fowls, except for their flesh and eggs, is manifested in the district of Frankfort. Here and there may be found an amateur who, from higher motives than mere utility, keeps a few pigeons or fowls of rare imported breeds, but these exceptions merely illustrate the general indifference on the subject.

Grain and all other kinds of food for poultry are uniformly too costly in this part of Germany to admit of the raising of fowls as a source of profit. The farmers usually live in compact villages, where their premises are re-

stricted and at close quarters with those of their neighbors. The trespassing of chickens upon neighboring gardens and barnyards is not tolerated, and thus the farmer who tills a few acres of unfenced land at a distance from the village has small facilities for raising poultry beyond the needs of his family.

VARIETIES.

Out of these conditions has grown the practice—which now prevails throughout the whole of southern and western Germany—of the importation by special dealers of great numbers of fowls from northern Italy, which for a long period, particularly since the opening of the St. Gothard Railway, has been the main source of supply for poultry and eggs to Switzerland and Germany. The fowls thus imported are of the more or less mixed breed known in trade as “Italian,” a mongrel breed derived from the original Paduan and Leghorn stock. They are mainly of three colors—white, black, or partridge hued—the cock being handsomely plumed, with heavy wattles and comb, which are considered a great delicacy for the table, but are apt to be nipped by the frost during severe winters. The legs are yellowish, without feathers; the flesh white, but unless especially fat it is apt to be soft and indifferent in flavor. The shining merit of the “Italianer” is that it is easily bred and kept, and the hen, if well fed and sheltered, will all winter lay eggs quite above the medium size, which command the highest price in the German market. They are not good sitters, and because of this and of the high cost of food, it is found more economical to import them, as above stated, in carloads to depots in the principal German cities, whence they are distributed in small lots to farmers, who keep them about the house and barnyard, where they are generally left to scratch for subsistence among the very meager material that goes to waste about a German peasant's premises. Only in rare instances are they fed at all, except during the severest weather of winter. It is this same Italian fowl which is found in every part of Switzerland and France, and which, after being parboiled for the soup that begins the meal, appears as a pale, flavorless roast, with the salad, toward its end.

Next in order of importance come the Hamburgs, of which there are several varieties—the white, silver speckled, gold speckled, and black. They are favorites with growers on account of their pride and beauty of race and for their merits as layers, though their eggs are of only medium size. They have clean, black, or dark-colored legs, are good brooders, and when pure bred they are a large, vigorous, and combative race. But the pure-bred Hamburgs are comparatively rare in this section, and they lose by crossing much of their size, courage, and dignity of gait. The distinctive mark of the race is that every feather, large or small, white, gray, or gold speckled, has at the tip a small black spot, not unlike the “Spiegel” which marks the feathers of the peafowl. The Hamburgs do not well bear close confinement, but lay and fatten best when well fed and allowed the freedom of the yard or field.

The Cochin China and Brahmepootra fowls were introduced into Germany, mainly from England, about twenty years ago, and are grown to some extent as fancy breeds on account of their great size and strongly marked variations of form from the prevailing types. But both these races require too rich feeding and warm shelter, especially while young, to be profitable in a country where the climate is so brusque and food so costly as in Germany. They have been crossed with the Hamburgs and other native breeds, and have thereby produced mixed varieties smaller in stature, but hardier, and, on the whole, more profitable than the pure Asiatic stock. A Cochin China hen, well fed and sheltered, will lay 150 eggs in a year, but this number quickly diminishes when she is left to shift for herself with the remainder of the flock.

There was held recently at Wiesbaden the twelfth exhibition of the local poultry association. The existence of such an organization would seem to indicate a more or less intelligent and general interest in poultry-raising, and to a certain extent this is true, but a somewhat careful study of the exhibition itself shows that only the more ordinary varieties of fowls are exhibited from the neighborhood of Wiesbaden or Frankfort, the rarer exhibits coming mainly from provinces as distant as Thuringia and Westphalia. Aside from a single pair of Yokohama fowls, which came from Oschatz, in Saxony, a pair of Wyandottes from Westphalia, two Plymouth Rocks from Fulda, and three pairs each of Spanish and Minorcas, the general exhibit hardly went beyond the range of an ordinary county fair poultry show in the United States.

The Black Spanish fowls were introduced here from the West Indies, and, although they have proved good layers, they are apt to lose their feathers in the climate of Germany, and are too delicate for profitable raising. The latter is also true of the Houdan, the Crève Cœur, and La Flèche breeds, which are most esteemed for their flesh, and supply the "Poulards de Bresse" and other choice poultry of France. Whether from the relatively colder climate of Germany or want of skill in feeding, none of these breeds has been found profitable in this country; and the capons which supply the gourmands of Frankfort are imported from France.

FANCY FOWLS.

The breed which seems to unite most successfully the "fancy" and useful qualities is, strangely enough, the Bantam, of which there are found here several varieties—black, silver, and orange brown—of Japanese, Javanese, and Cochin origin. Though small, they are excellent layers and, especially the Japanese Bantams, have a quality that is greatly prized by amateurs who possess gardens—a quiet, tractable disposition, which prevents them from wandering far from the coop or from scratching wantonly, like some of the other breeds, wherever a spot of loose earth can be found.

It will be apparent from the foregoing that the poultry industry in the district of Frankfort is relatively unimportant and presents no advanced or

original features which would render a more detailed account of it valuable or interesting. All the breeds of fowls that are grown here are well known in nearly every part of the United States.

ARTIFICIAL INCUBATION.

Artificial incubation has been practiced to only a limited extent and generally with but indifferent success. The incubator of Poudre's pattern is generally preferred, but for the reasons above stated poultry-raising has not attained sufficient dimensions in this part of Germany to render artificial hatching profitable or important.

DEALERS AND EXPORTERS.

The principal dealers through whom all kinds of German fowls and pigeons may be obtained are H. Marten, at Lehrte, and C. Resche, at Alsfeld, both in the province of Hanover.

FRANK H. MASON,
Consul-General.

FRANKFORT, *July, 1893.*

INTEREST IN THE INDUSTRY.

Considerable interest is taken in fowls in this consular district (Hamburg). There exists here a society called the Hamburg-Altona Fowl-Breeding Society, which annually holds a well-patronized exhibition of fowls at the Hamburg Zoölogical Gardens.

BREEDS AND CHARACTERISTICS.

Full information concerning the characteristics of the fowls bred in this district is given in the table opposite.

ARTIFICIAL INCUBATION.

Artificial incubation is employed here as a common method of propagating fowls.

CLIMATE.

The climate of Hamburg is irregular and wet, southerly and westerly winds bringing rain and easterly winds causing low temperature. The minimum temperature in winter is about -10° F., the maximum in summer about $+95^{\circ}$ in the shade. It rains a great deal, a circumstance unfavorable to the raising of fowls.

Kinds.		Bred for—	Characteristics.	Whether bred true to type and color.
Cochin Chinas.....	Yellow.....	Eggs and food.....	Very large fowls; good mothers.	Yes.
Bramapootras.....	White to dark.....	do.....	Large; good mothers.....	Do.
Langshans.....	Black.....	do.....		Do.
Wyandottes.....	White, black.....			Do.
Spanish.....	Black or white.....	Eggs.....	White face.....	No.
Andalusians.....	Bluish slate.....	do.....	Red face.....	Do.
Minorcas.....	Black or white.....	do.....	do.....	Do.
Dorkings.....	Dark silver.....	Food.....	Five toes.....	Yes.
Italians.....	All colors.....	Eggs.....	Large comb.....	No.
Bergish crows.....	Dark yellow.....		Loud crows.....	Yes.
Ramelslober.....	White or yellow.....	Eggs.....		Do.
Phoenix hens.....	Various.....	Fancy fowls.....	Long tail of cock.....	Do.
Yokohama.....	White to yellow.....		Tall; long necks.....	Do.
Game.....	Reddish; black.....	Eggs.....	Head, neck, and legs long.....	Do.
Malays.....	Reddish brown.....		Tall; long neck.....	Do.
Sumatra.....	Black.....			Do.
La Flèche.....	do.....	Food.....		Do.
Crève Cœur.....	do.....	do.....		Do.
Paduan.....	White, yellow.....			Do.
Hollanders.....	Black, gray.....			Do.
Hamburgs.....	Reddish gold.....	Fancy fowls.....	Pretty feathers.....	No.
Silk hens.....	White.....		Hair-like feathers; blue comb.....	Yes.
Bantams.....	Various.....	Eggs.....	Good mothers.....	Do.
Houdans.....	Black and white.....	Food.....		Do.
Plymouth Rocks.....	Mottled.....			Do.



ACKNOWLEDGMENT.

In conclusion, I desire to take occasion of gratefully acknowledging the assistance afforded me by Mr. Julius Völschau, president of the Hamburg-Altona Society for Fowl-Breeding.

W. HENRY ROBERTSON,

HAMBURG, *August 18, 1893.*

Consul.

INTEREST IN FOWLS.

In Bavaria much interest is taken in the poultry industry, especially in the propagation of chickens. There is a number of poultry-breeding associations located in nearly every one of the larger cities of the Kingdom, as, for instance, Nuremberg, Wurzburg, Bamberg, Bayreuth, Kitzingen, Fürth, Aschaffenburg, Erlangen, Schweinfurt, etc.

VARIETIES.

Of the domestic chickens the most important are the German country chickens, which, by a system of crossbreeding, have in late years been much improved as to their eggs and meat. Some of the chickens so bred, and which are most excellent for eggs and food, are the country chickens of Upper Bavaria and the Augsburg chickens. The German country chicken is of various sizes and colors, with varying crest, and shy.

The country chickens of Upper Bavaria and the Augsburg chicken correspond in size, color, crest, etc., to the German country chicken.

The following is a complete list of the races and varieties which are bred and kept in Bavaria:

German country chickens.—Middle sized; in all colors; comb varying; character shy; fairly good layers. They are strongly recommended for crossbreeding purposes.

Italian country chickens.—Known as the best layers; color varying; legs smooth and yellow; the cock has a large upright comb, the hen a large fallen one. They multiply rapidly in this climate, and are highly recommended for breeding and crossing.

Hamburgs.—Are also called "Lackhühner" (lack chickens). They have bright, lustrous feathers, and are good layers, but not good sitters.

Pigmy chickens.—In various colors and combs, with and without feathers on the legs. They lay and breed well.

Dorkings.—Very large; body strongly, almost awkwardly, built; strong legs, with five toes; comb varying. They lay well, but, considering their size, the eggs are small.

Spanish.—Came originally from Spain; most excellent layers, but bad sitters; a large fowl, with black, lustrous feathers and white face. The cock has a large, upright comb, the hen a fallen, tottering one.

Bantams.—Are comely little birds, with a proud, upright attitude; lay and breed well; are especially fit for breeding pheasants. They may be of

one color or various—white or yellow, with feathers black at the tips (so-called Sibrigh Bantams).

Japanese Bantams.—Mostly white, with black tail. The cock has long, sickle-shaped feathers, and short legs, without feathers. They are good-natured birds, and lay comparatively well.

Fighting Bantams.—Are also called "Pigmy Fighters." They are of various colors; have a simple, upright comb; are very quarrelsome; lay and breed well.

Malay.—Came from India; taller than other breeds of chickens; vary in color; legs long and yellow; small comb and wattles. They are not good layers, but excellent sitters.

Yokohama.—Originally from Japan; one of the smallest of fowls; introduced here only in recent years; are difficult to breed. They are said to be bad layers, but very good sitters and leaders.

Hollander.—Are also called "Polland;" color black or slate blue, with white, full cap, or entirely white; small comb, long wattles, and bare legs. They lay well, but the eggs are not very large.

Brabanter, or Paduan.—Handsome middle-sized bird, with large cap and beard; in different colors; lay well; poor sitters; very tame. They are excellent for keeping in cities, as they are satisfied with any space.

Houdan.—Are also called "Wanzenauer;" white, with black irregular spots; cap and beard; large shield comb and five toes, like the Dorking. They are excellent layers, but poor sitters. Their meat is excellent.

Crève Cœur.—Of French origin; black plumage; cap and beard; small, two-pointed comb; strong, solid body. They are excellent layers and are good for fattening and crossbreeding purposes.

La Flèche.—Came from France; good layers, but poor sitters; are the celebrated "Poulards;" instead of a comb, they have two upright points; long wattles; and black shining plumage. They are to be recommended for crossbreeding.

Breda.—Of Belgian origin; also called "Krähenschnabel" (crow bill). They are especially distinguishable from the other races of chickens by an almost entire absence of comb, a thick red skin taking the place of that usual ornament. Their legs are feathered, and they resemble the La Flèche. They lay well, and the eggs are medium sized.

Cochin China.—Came originally from Shanghai, and are now raised in all countries; are of various colors; good layers; eggs are not too large and of a yellowish tint. They are excellent sitters and leaders.

Brahmapootra.—Exist in two varieties; resemble the Cochins, with the exception of color and comb; came from America; better layers than the Cochins. They are excellent sitters, and are highly recommended for crossbreeding purposes.

Negro hen.—Are also called "black chicken;" size of the German country fowls; black plumage, sometimes speckled; comb and wattles small and black; skin everywhere black. They are not good layers and seldom sit.

Silk chickens.—Are also called “wool” or “hair” chickens; mostly white, with red skin, in which case they are called Japanese; with dark-brown or almost black skin, they are called Siamese. They have a hair-like, soft plumage, from which they obtain a silky appearance. They are of small size, fair layers, and good leaders.

Guinea fowls.—Gray plumage; are shy and quarrelsome among other fowls. The eggs are small, with hard shells.

Truthühner.—Also called Indian or Turkey fowls; exist in various colors. They are highly recommended as layers and have very delicate and excellent flesh.

Peacocks.—Have the finest plumage of all fowls; are quarrelsome among other fowls, and can only be bred in large places.

Pheasants.—Belong to the half-tame poultry races, and are kept in closed spaces or preserves. They came originally from China.

California quails.—Are also called “tufted quails;” double the size of the ordinary quail; the tuft consists of upright feathers, which are slightly bent forward at the tips. They are easy to breed in inclosed quarters.

Ducks and geese.—Several varieties are raised in this country in large numbers. The flesh of both is excellent, and the geese produce a large amount of feathers.

PURPOSE FOR WHICH FOWLS ARE KEPT.

The pure races are kept mostly for fancy purposes, their eggs or flesh seldom being used for food.

ARTIFICIAL INCUBATION.

Although many efforts have been made to propagate chickens by artificial incubation, they have always proved failures financially. Natural breeding has been demonstrated to be the best, and at the present time, so I am informed, no breeding establishments with artificial incubation exist in Bavaria.

CLIMATE.

The climate here is moderate, similar to that of our Middle States.

DEALERS.

Chickens for export can be obtained from any of the associations to which I have referred in the opening of this report by addressing requests to their presidents.

NUREMBERG, *September 8, 1893.*

WM. J. BLACK,
Consul.

INTEREST IN FOWLS.

Special interest is not taken in poultry-raising within this consular district (Stuttgart). There are no extensive dealers, and poultry is only raised by the various farmers and on a small scale.

VARIETIES.

The fowls kept, aside from the ordinary fowl, are the Italian, Spanish, and French (Houdan and Crève Cœur), Hamburg Goldlacks, Cochin China, and Brahmapootra. The colors and sizes vary with the different breeds. The average weight of the ordinary fowl when in the market is $4\frac{1}{2}$ pounds; but very few full-grown ones are offered, as (the supply of eggs never equaling the demand) hens are kept principally for their eggs, and, except in rare instances, only young cockerels, which are naturally of a less weight than the full-grown fowl, are placed on the market. A comb is always present, but with those fowls having a crest the comb can not be seen without examination. The pure European fowls have no feathers on their legs. The color of skin is whitish yellow, and the legs are either steel gray or yellow.

BREEDING TRUE TO TYPE AND COLOR.

They invariably breed true to type and color, except when the breed is intermixed. The fowls are not as a rule bred as pure races, those which are being the Cochin China and Italians.

SITTERS AND NONSITTERS.

They are as a rule sitters, except when disturbed. If they are once frightened away from their nests they seldom return. A general custom is to place the eggs under a turkey for hatching purposes.

PURPOSE FOR WHICH FOWLS ARE KEPT.

The principal reason for which fowls are kept is for the eggs.

FANCY FOWLS.

Fancy fowls are not raised at all, except by a few of the more wealthy landowners, and then only for their personal pleasure; not for the market or the benefit of poulterers.

ARTIFICIAL INCUBATION.

Artificial incubation is not employed as a common method of propagating fowls. Only one incubator is known to be in use in Würtemberg.

CLIMATE.

The character of the climate of this consular district can not be accurately determined, statistics not being compiled, owing to a part of Würtemberg being situated in the Black Forest, where the air is very cool and bracing, and other parts being in the valleys, where the heat of summer is naturally more intense. However, Stuttgart lies nearly in the center of Würtemberg, and the average yearly temperature there is 49.6° F.

DEALERS AND EXPORTERS.

Fowls are not raised in sufficient quantities in this consular district for export to the United States. The largest dealer in poultry is H. Hörr, Hoflieferant, Mühlberg 6, Stuttgart.

ALFRED C. JOHNSON,
Consul.

STUTTGART, *July 26, 1893.*

GREECE.

No special interest is taken in fowls in this country.

Many varieties are to be seen, but all are degenerated, miserable, small birds, with and without feathers on legs, and these both yellow and black.

I can not say whether any breed is true to type and color, but am rather inclined to the opinion that there is a small black fowl very similar to the Black Spanish that might be considered a true type.

None, so far as I am aware, are bred as pure races.

Generally, I should say all the fowls are good sitters, and often die on the nest through not being properly looked after and getting full of chicken lice.

No distinction seems to be kept of varieties for eggs or food.

There are no kinds bred as fancy fowls to any extent.

Artificial incubation is not employed.

The climate in this country is known as temperate, varying usually from about 55° in the winter to 85° in the summer, with occasional short periods both in winter and summer of lower and higher temperatures. Snow and frost, except on the mountains, are rare events.

Fowls are not obtainable for export.

Turkeys seem to thrive well in this country. Large droves are brought into town early in the autumn and are to be seen all through the winter. The price is about \$1.50 to \$3 per pair, according to season.

E. HANCOCK,
Consul.

PATRAS, *July 14, 1893.*

ITALY.

Much interest is taken in the breeding of fowls in this district (Leghorn).

VARIETIES.

The domestic fowls to which particular attention is given are the native varieties—Leghorn and Paduan. Of the two, the Leghorn is given the preference. They are of medium size, excellent meat, very productive, fine ap-

pearance, and easily raised. The cock has a large, straight comb, well indented, and is fierce and vigorous in appearance. The beak and legs are yellow in color, and the legs are without feathers. The weight is from $4\frac{1}{2}$ to 6 pounds. The hen has a large, drooping comb, a lively eye, regular flaps, gentle appearance, and the beak and legs are the same as the cock. The weight of the hen is $3\frac{1}{4}$ pounds. There are four varieties—the white, black, gilded, and silvered.

The Paduan is of the same size as the Leghorn, and is very docile. It is noticeable for the thick crest on the head; it has a small comb, which ends with two small horns; short flaps; beak and legs are yellow, and the legs are without feathers. They are good producers.

Both varieties breed true to type and race, care being taken to obtain perfect types for breeding purposes. Both are bred as pure races.

SITTERS AND NONSITTERS.

The Leghorn is a poor sitter, and the Paduan a nonsitter.

PURPOSE FOR WHICH FOWLS ARE KEPT.

They are kept for both food and eggs.

FANCY FOWLS.

There are no native varieties of fancy fowls other than those described.

ARTIFICIAL INCUBATION.

Artificial incubation is not employed, owing to the warm and temperate climate.

DEALERS AND EXPORTERS.

The fowls may be obtained in this district from Luxardo Brothers, of Ardenza, Leghorn, Italy.

RADCLIFFE H. FORD,
Consul.

LEGHORN, *July 11, 1893.*

INTEREST IN FOWLS.

While fowls are very extensively bred in this district (Turin), no special interest is taken in their propagation. Every farmyard has its flock of fowls, but no one breeds them as a business—they are merely an incident to the farm.

VARIETIES.

The domestic fowls have been bred almost entirely from the Leghorns. No effort, however, has been made to keep the breed pure, and the result is a mixed breed, which is nevertheless admirably adapted to the exigencies of

the climate. The fowls are uniformly of a medium size, showing almost invariably white or brown bodies, with occasionally black feathers about the neck, but more frequently extending from the neck along the back and upper portion of the wings. Yellow, featherless legs and yellow skin predominate; a few are found with black legs, but they are considered inferior, both as egg-producers and for food purposes. The cocks have extremely brilliant red combs of more than usual proportions; the combs are single and very long and high and are highly esteemed as a culinary delicacy.

BREEDING TRUE TO TYPE AND COLOR.

None of the fowls here breed true to type and color. A very few gentlemen in the district amuse themselves in breeding pure breeds of fowls as a pastime. Their number is, however, very small, and most of the fowls are of imported stock. There is to be held next spring at Palermo a "chicken show," where all the best fowls bred in Italy will be exhibited.

SITTERS AND NONSITTERS.

The common variety of domestic fowls are nonsitters. Turkeys are sometimes impressed into service as sitters.

PURPOSE FOR WHICH FOWLS ARE KEPT.

The fowls are principally kept for their eggs, immense quantities of which are annually exported to England. They are of good size and uncommonly white.

FANCY FOWLS.

There are no particular or peculiar breeds of fancy fowls here.

ARTIFICIAL INCUBATION.

Artificial incubation is not employed, except in a few rare instances where chickens are bred solely for amusement.

CLIMATE.

During the months of December, January, and February the weather is cold—uniformly and unvaryingly cold—the mercury ranging from 10° F. at night to 34° or 36° during the day. There are usually a few days each winter when the mercury falls below zero. A few heavy snowstorms usually occur during the winter. November and March are not so cold. In April, May, September, and October the temperature is pleasantly warm. During the first two months named more or less rain usually falls. June, and particularly July and August, are for the most part very hot.

PERCY McELRATH,

Commercial Agent.

TURIN, *June 30, 1893.*

MALTA.

Poultry is, in no sense, an industry in these islands. Very many fowls are kept by private individuals and small farmers, but no special pride or care is taken in their breeding. Nearly every family throughout the islands keeps a few fowls. In the large towns they are kept in coops, or allowed to run about in the limited spaces of the terraces or flat stone roofs of the dwellings. Fowls are never seen in the fields or gardens, being raised and fed in the coops. The price of eggs is from 12 to 20 cents per dozen and the price of chickens, dressed, from 12 to 16 cents.

Information kindly supplied by the acting chief secretary of the government goes to show that the Malta fowl is not a large bird, but is a good layer. The feathers are either jet black, white, spotted, or gray. It is crested, has an upright comb, but no feathers on legs.

The only fancy fowls bred are Bantams, Dorkings, and a variety of Cattaro. All fowls, including turkeys, peacocks, ducks, geese, and Guinea, Barbary, and Odessa fowls, are kept both for their eggs and flesh.

JOHN WORTHINGTON,

MALTA, *October 10, 1893.*

Consul.

RUSSIA.

INTEREST IN FOWLS.

In many parts of Finland the interest in the poultry industry has increased during recent years, and some very excellent poultry yards are now to be found. Still the industry has not yet reached any very great proportions. No poultry paper is published in this country, nor is there any "standard of perfection."

VARIETIES.

Besides imported fowls (Light Brahmas, Plymouth Rocks, White and Brown Leghorns, Wyandottes, Black Minorcas, Houdans, and Crève Cœurs) and crossings of the same with Finnish hens, there is but one race, called "Finnish Peasant Hens," bred in this country. This genuine Finnish race is small, yellow, brown, and black colored (sometimes all these colors together); without crest, single comb, bare yellow or black legs, and four toes. The hens are sitters and excellent mothers. The weight of the hen is about 4 pounds Swedish, and that of the cock from 5 to 7 pounds Swedish.*

The race is particularly strong, sound, and free from all diseases affecting hen kind. It is very active and of a lively temper, more so than the Leghorn races. They fly well, and are consequently difficult to keep confined. Very hardy as this race is, on account of the cold climate, nevertheless it thrives

* Swedish pound = 0.938 pound avoirdupois.

well shut up in houses during the winters. Crossings of the Finnish hen with other races turn out very well, and the progeny is admirably suited to the climate, and as far as practical usefulness goes, it far surpasses the pure races. The skin of the Finnish hen is like that of the Plymouth Rocks and Minorcas. The chickens of the Finnish hens come out many colored, but are mostly very dark when young.

PURE BREEDS AND SITTERS.

The foreign races are partly bred as pure races and partly crossed, the one race with the other.

The Finnish hens are all sitters.

PURPOSE FOR WHICH FOWLS ARE KEPT.

Fowls have hitherto been reared as much for food as for eggs. There are no specialists engaged in the breeding of certain races.

FANCY FOWLS AND ARTIFICIAL INCUBATION.

Fancy fowls are not bred, and at the exhibitions, where a small space is often reserved for "poultry," the fowls are selected according to their sound and fine exterior, generally without knowledge of, or regard to, "points." This is because no "standard of perfection" has been established as yet for lack of a general public interest in the matter. There has been no exclusively poultry show, nor is there an association or club where breeders of fowls meet to discuss the subject.

Artificial incubation is used, but on a small scale.

CLIMATE.

The climate is very suitable for breeding fowls, even on a large scale, if houses sufficiently warm are used to keep them in during winter and pains are taken to propagate early chickens. The long, cold, and rainy autumns prevailing in these latitudes are very trying to the hens, and the chance is small for late chickens to stand it.

DEALERS AND EXPORTERS.

Mr. G. T. Dahlström, Tölö, Helsingfors, the proprietor of a large poultry yard, can be recommended as thoroughly understanding the breeding and rearing of fowls. He is acquainted with the English language.

HERMAN DONNER,

Acting Consul.

HELSINGFÖRS, *September 21, 1893.*

In this district there is no special interest taken in fowls. In fact, the peasantry follow the old way of raising poultry—leave the fowls to take care of themselves. Although the export of eggs from several parts of Russia is

increasing of late, nothing is done here for improving the size of the eggs, which are small and of poor quality.

There has lately been formed in this city a society for the improvement of the poultry industry, but it will take years before it will be able to exercise any influence upon the peasantry as regards the breeding of fowls.

N. P. A. BORNHOLDT,
Consul.

RIGA, *July 11, 1893.*

Owing to the low market prices, there is not much interest taken in the poultry industry in Poland.

Domestic fowls in this country have no special characteristics. They are of various colors; in size medium, often small; legs thin and short; body placed horizontally on legs; feathers scant and flat on the body. Some have combs and some crests, but these are always small. In general, there are no typical marks on the fowls raised in this country.

No fowls are bred here as pure races.

In the domestic varieties there is no special division, for the reason that they are not cultivated.

They are kept for both meat and eggs.

In some instances fancy fowls are kept, but as a general thing only the common varieties.

Artificial incubation is not employed in this country, the economical situation not requiring it.

The climate of this country can be compared to the climate of the United States.

The most responsible party to correspond with concerning the export of fowls to the United States would be Mrs. Izabella Ryx, Prazmów per Grojec, Russian Poland. The lady mentioned is a landed proprietor, engaged extensively in raising all kinds of fowls.

JOSEPH RAWICZ,
Consul.

WARSAW, *August 10, 1893.*

SPAIN.

No special interest is taken in fowls in this district, as it is difficult to raise them, owing to disease and also to the high cost of corn.

They are comparatively small, of many colors, have combs and crests, but as a rule no feathers on the legs. The legs are usually of a yellowish color, and the skin resembles that of the ordinary New England fowl.

Fancy breeds are not imported here to any appreciable extent, and the result is that the fowls all seem to be of the same breed and type.

The hens are good sitters, and the eggs are large and excellent.

Many fowls are imported for food purposes.

Artificial incubation is not a common method here for propagating fowls, and there are no large fowl farms anywhere in this province.

The climate is exceptionally fine, being neither very cold in winter nor very hot in summer.

There are no exporters of fowls here, but they may be obtained from Thomas Alexander, jr., 11 Pasage Mercader, Barcelona. In my opinion they are not worth exporting.

HERBERT W. BOWEN,

Consul.

BARCELONA, *June 20, 1893.*

INTEREST IN THE INDUSTRY.

There is no special interest taken in the breeding of fowls in the consular district of Cadiz.

VARIETIES.

Chickens of various kinds are kept, also turkeys, peacocks, geese, and ducks. Formerly the old Castilian race of fowls existed pure in different colors of legs, such as black, blue hue, greenish, and white. The feathers of these chickens are dense and fine; the cheeks of clean white, the tail and wings long, and the crest large. The meat is good and tender, and the eggs large. In fact, they possess the best qualities throughout.

Afterwards the Cochin China chickens were imported here. They are of large size and fat. Their meat is tough. Their legs are of a yellowish color and are feathered; wings and tail short and round. They are good sitters, but their eggs are small, of dark or reddish color. This kind has been rejected on account of its bad qualities, and there exist only a few specimens of this race at present. The Cochin Chinas have been mixed, however, with the old Castilian to such an extent that the flocks which are bred now are a complete mixture of the general run of barnyard fowls, and can be classed under the head of "mongrels," for there are seldom to be found two birds alike, either in type or color, among these domestic specimens. Still, some specimens of the old Castilian race can be found pure in different parts of this district. Among the "mongrels" there is no uniformity in color of skin or flesh, as some farmers have a fancy for keeping all white birds and others all black. Preference is often given to the black because they lay the larger eggs. As a consequence, in such motley flocks there are to be found fowls with combs, crests, topknots, and beards. The sizes of the fowls also vary

in the extreme and range from 2 to 6 pounds. Prices range from 59 to 97 cents apiece.

BREEDING PURE TO TYPE AND COLOR.

The Castilian chicken breeds true to type and color, provided it is not mixed with other races; but the general run of fowls have the characteristics of various breeds, such as the Andalusians, French Houdans, La Flèches, Brahmas, Cochins, Plymouth Rocks, Game, and Dorkings, all combined in perhaps a few dozen birds.

BREEDING TRUE TO RACE.

No special pains are taken here to breed fowls true to race, except the fighting cock; but people are beginning to select and breed back to the old Castilian type.

PURPOSE FOR WHICH FOWLS ARE KEPT.

Fowls are kept for the table, as well as for their eggs. Large quantities of eggs are brought to this market from the north of Spain (Galicia), from Estremadura, and from Morocco; these are smaller in size than the Andalusian, as are also the fowls.

As a mixed race, the hens here are good layers; both kinds, the Cochin as well as the Castilian, possess this quality.

FANCY FOWLS.

The only fancy fowl with any pretension to purity of breed is the so-called English or Belgian gamecock. It is reared by amateurs and used solely for cockfighting. This bird is of a medium size, resembling the pheasant, both in shape and length of leg. The color varies very much, and, although the bird generally breeds true to type, it very seldom does so as to color, which latter point, however, is of no importance to the fanciers, whose principal object is to produce medium size, pluck, and hot blood. The crests of these birds are cut and the feathers plucked off the body, excepting the wings.

ARTIFICIAL INCUBATION.

Artificial incubation has been tried here by amateurs, but has been discontinued, not being of any advantage.

CLIMATE.

The climate of this district is warmer than that of a similar latitude in the United States, although the seasons are the same. During summer, which is generally dry, the temperature rises to 86° F.—even 113°—in the shade, and falls sometimes in winter to the freezing point.

EXPORTERS AND DEALERS.

The number of birds hatched in this district being limited, I think it would be difficult to find a supply for exportation. The country town of Berrios is celebrated for its poultry as regards size and delicacy of flesh, and

also as layers. Although no particular care is given to their breeding, the black, blue-legged fowl is said to predominate there.

There are several amateurs in this district, and among them Mr. Antonio Esquivias, Forestal Engineer at Seville, who, having obtained several prizes at various exhibitions for his fowls of the old Castilian race, would be the proper person to supply specimens of the same.

CADIZ, *September 4, 1893.*

A. J. BENSUSAN,
Vice-Consul.

No special interest is taken in fowls in this consular district, although domestic fowls, comprising hens, ducks, and turkeys, are kept.

These are of no special color and are as a rule small. The cocks and hens have large combs and no feathers on the legs. The color of the legs and skin is yellow.

None of these varieties are bred true to color, although the type is the same.

The fowls, as a race, are like barnyard fowls, and are sitters.

They are kept for eggs and food.

No "fancy" fowls are bred.

Artificial incubation as a common method of propagating fowls is not employed.

The climate is warm in spring, hot in summer, and the winter is never severe, so that fowls lay all the year round.

Fowls can be bought in the markets and from small farmers in the district, and poultry is plentiful.

The price of barnyard fowls varies from 60 to 80 cents; ducks, about 50 cents each.

The average weight of a barnyard fowl is 2 to 3 pounds; ducks about the same.

CIRILO MOLINA,
Consul.

CARTHAGENA, *June 30, 1893.*

Most of the people, especially those living in the country and villages, keep fowls. The very poor class derives its maintenance and support by keeping and breeding fowls, but in a limited manner; others keep them merely for recreation.

Nearly all are of the common varieties, without regard to color or shape.

The Black Spanish breed is well known in England and America.

They are bad sitters.

They are kept for their eggs. The Black Spanish lays over 150 eggs yearly, and these are sold on an average at the rate of 30 cents per dozen. As food the meat, as a general rule, is not much appreciated here.

As to fancy fowls, with the exception of some game fowls, which are carefully bred, there are none but the Black Spanish breed.

Artificial incubation is employed, but not as a common method of propagating fowls.

One of the most important elements of the wealth of Malaga is the climate. The temperature in winter is about 50° F., and in summer 65° to 75° F. There are only 2° or 3° of variation during the winter months. Constant sunshine is the rule.

Malaga is indebted to its fine soil and even and mild climate for its extraordinary productions.

Fowls can be obtained at Malaga from Mr. Frederick L. Vilches, who keeps the only large and well-fitted establishment where pure breeds can be had. I have obtained the above information from this gentleman, who has a large landed property which is solely devoted to the development and breeding of poultry. Mr. Vilches is thoroughly conversant with the breeding of these birds, and is of opinion that the black fowl can be exported to the United States to advantage.

THOMAS RING GEARY,

Acting Consul.

MALAGA, July 11, 1893.

SWEDEN.

INTEREST IN THE INDUSTRY.

Special interest has been taken in poultry farming in this district during recent years.

VARIETIES.

In addition to the common native cocks and hens, which are multi-colored, other varieties of fowls are kept principally for their eggs, but also for their flesh and as brooding hens.

Black Minorcas.—Middle size; shiny black; long, lead-colored, bare legs; fleshy, standing, denticulated comb; white ear lobes; lay from 160 to 220 eggs per year; good breeding hens; chickens fledge quickly and are rugged.

White Leghorns.—Middle size; white; yellow, unfeathered legs; good egg-layers (about 190 per year); bad sitters; chickens rugged and quickly developed; comb of the cock straight, standing, and denticulated; comb of the hen hanging.

Plymouth Rocks.—Large, grizzly, and good egg-layers, even in winter; rugged and fleshy; fine brooding hens; yellow bills; red, standing, denticulated comb; red faces and ear lobes; bare, yellow legs; chickens quickly develop.

Hamburgs.—Black and white dotted; small and rugged; very good egg-layers (190 to 220 per year); poor sitters; chickens very tender before feathering.

Brahmas.—Three different kinds—light yellow, dark, and white; large; grow fast; not very good egg-layers (about 140 per year); good flesh; comb triparted; legs feathered.

Cochin Chinas.—Brown, light yellow, and black; large; lay about 140 eggs per year; good flesh; yellow neb; brood well (just like an incubator). This variety, together with a few others, is only kept by the henneries, as they are not suitable for this climate.

BREEDING TRUE TO TYPE.

All these varieties keep up extremely well, but degenerate in time if fresh blood is not brought in.

PURPOSE FOR WHICH FOWLS ARE KEPT.

The fowls are kept principally for eggs, but also for food.

FANCY FOWLS.

The only fancy fowls kept are peacocks and pheasants.

ARTIFICIAL INCUBATIO.

Artificial incubation is only employed by the henneries.

CLIMATE.

The climate is milder in Sweden than it is in the same latitude in the United States.

DEALERS AND EXPORTERS.

The general export association of Sweden (Stockholm) will give all information in regard to the export of fowls.

JOSEPH E. HAYDEN,

Consul.

STOCKHOLM, *June 15, 1893.*

SWITZERLAND.

INTEREST IN FOWLS.

No special interest in fowls is manifested either in Basle or in the adjoining country districts, but the Swiss Ornithological Society has in late years made vigorous and intelligent efforts to excite such an interest, especially among the peasants, who would, it is believed, derive great profit from poultry-raising. The president of this society—Mr. Græter-Engel, of Basle—has even delivered lectures to the peasants on this subject, besides distributing among them pamphlets containing information on poultry-raising. He believes this would be a subsidiary industry of great value to the country people. Switzerland imports from Italy and France poultry and eggs to the amount of more than \$2,000,000 yearly. Up to this time the

peasants hold to the old German proverb, "Whoever wants to ruin himself and doesn't know how, let him keep a lot of poultry." The objections raised are the obvious ones common in all countries—scratching in the garden, trouble with the neighbors, loss by beasts and birds of prey, and the uncleanness attending the keeping of a large number of fowls.

VARIETIES.

The Italian breed is the favorite in this part of the country on account of its moderate price and the small cost of its maintenance. It is of medium size; black and white, black and brown, or pure black in color; and has a comb. The legs are yellow, without feathers.

BREEDING TRUE TO TYPE AND RACE.

The Italian variety does not breed true to type or color. It is not bred as a pure type.

SITTERS AND NONSITTERS.

The breed can hardly be classified as belonging either to the sitters or the nonsitters, since the individual fowls are about equally divided between the two classes.

PURPOSE FOR WHICH FOWLS ARE KEPT.

Egg production is the object for which fowls are kept here. A member of the ornithological society residing here obtained with 55 layers of the Italian variety the following results: In January, 422 eggs; February, 465; March, 690; April, 938; May, 900; June, 747; July, 500; August, 362; September, 190; October, 88; November, 144; December, 144; total, 5,591 eggs, worth \$100 at the market price at that time.

FANCY FOWLS.

There are few poultry fanciers in this district.

ARTIFICIAL INCUBATION.

Artificial incubation is not employed.

CLIMATE.

In regard to the climate of Switzerland, with especial reference to poultry-raising, the authority already quoted makes the following statement:

With the exception of the mountain region, our country is adapted to poultry-raising. It is not to be denied that a dry climate is of the utmost importance in this industry, and that in a mountainous country like Switzerland dampness prevails in many places. But, on the other hand, it is possible, by a proper installation of the poultry house and yard, to neutralize in a large measure this disadvantage. It is decidedly erroneous to assume that La Bresse possesses so many advantages over Switzerland in this respect. The character of the soil is not more advantageous than in many Swiss places, while the climate is almost identical with that of our lowlands.

DEALERS AND EXPORTERS.

There are no exportations of poultry from this district to the United States, the production not being nearly sufficient for the home demand.

GEORGE GIFFORD,
Consul.

BASLE, *July 8, 1893.*

No special interest is taken in fowls in this consular district, and there are no special breeds or varieties of chickens peculiar to Geneva, as all those found here are received from across the frontier (from Savoy), and are mixed again with Cochin China, Italian, or Houdan blood. A great many of these fowls are also mixed with Crève Cœurs, Campines, Brahmas, Langshans, and Wyandottes; and one can see that the chickens are in color, size, etc., so very different that it is impossible to describe any particular breed as to type and color. I do not think any effort is made to breed any of these fowls as pure races.

The climate here is considered a very even one, and changes are not sudden. The summers are never so warm, nor the winters so cold, as in most of the United States.

ROLAND J. HEMMICK,
Consul.

GENEVA, *July 31, 1893.*

TURKEY IN EUROPE.

INTEREST IN THE INDUSTRY.

The poultry industry in this consular district is quite extensive, and considerable trade in ordinary fowls is carried on. But no special interest is taken by the general public in raising domestic fowls.

VARIETIES.

The varieties of domestic fowls kept here are many. The color is grayish, white, black, yellowish, etc. Some of them have combs and others crests, but only very few have feathers on legs. The color of legs and skin is mostly gray, black, white, yellowish, or brown.

PURE BREEDS.

It is not possible to ascertain whether any of these varieties breed true to type and color, as no attention is paid to the matter here.

SITTERS AND NONSITTERS.

They are both sitters and nonsitters.

PURPOSE FOR WHICH FOWLS ARE KEPT.

Some of the rare domestic varieties of fowls are kept simply for the purpose of eggs, but most of the common chickens are kept for food.

FANCY FOWLS.

One of the best kinds bred as "fancy" fowls is called the pheasant fowl. This bird has a beautiful crest, resembling the pheasant, and the feathers have many colors, assuming the hue of flowers. They go in couples.

ARTIFICIAL INCUBATION.

Artificial incubation is not employed as a common method of propagating fowls.

CLIMATE.

The character of the climate in this consular district is very changeable; sometimes warm weather sets in immediately after a severe cold season.

DEALERS AND EXPORTERS.

I am informed that fowls can not be obtained for exportation in warm weather, the best season to obtain them being in the autumn and winter. Fowls can be obtained from the following persons, who are small dealers or merchants of chickens and fowls and general poultry traders: George Anastase, Grand 'Rue de Galata, No. 111, Galata, Constantinople; Christo Athanase, Grand 'Rue de Galata, No. 157, Galata, Constantinople.

WILLIAM B. HESS,
Consul-General.

CONSTANTINOPLE, *July 8, 1893.*

THE POULTRY AND EGG TRADE OF EUROPE.

[Republished from CONSULAR REPORTS No. 25, for November, 1882.]

EGG IMPORTS OF GREAT BRITAIN.

A glance at the London Board of Trade returns shows that England receives almost her entire supply of eggs from France. Holland and Belgium contribute, but only in a slight degree, to the enormous quantity of eggs consumed in England. The tables which I have the honor to submit herewith are compiled from the Board of Trade returns, and they will show the rapidity of increase in importation, as well as the advance in prices. From

the Board of Trade returns for March it appears that no less than 199,922,640 eggs, valued at about \$3,000,000, were imported into England during the first three months of the present year. I can see no earthly reason why American farmers should not share in the benefits of this trade.

*Statement showing the imports of eggs into Great Britain from 1856 to 1879.**

Years.	Number.	Value.	Average price per 120 eggs.
1856.....	117,230,600	\$1,392,110	\$1.60
1858.....	113,685,000	1,518,085	1.60
1860.....	167,695,400	2,383,290	1.95
1862.....	232,321,200	2,969,065	1.80
1864.....	339,298,240	4,175,140	1.85
1866.....	438,878,880	5,528,265	1.90
1868.....	383,969,040	5,046,425	2.00
1870.....	430,842,240	5,104,000	2.00
1872.....	405,701,040	6,970,760	2.25
1874.....	538,087,440	14,593,625	2.30
1875.....	580,212,360	10,393,295	2.25
1876.....	502,534,800	9,320,675	2.35
1877.....	441,369,920	8,010,190	2.30
1878.....	448,190,400	7,928,820	2.25
1879.....	412,935,720	9,958,045	2.00

POULTRY AND EGG INDUSTRY IN FRANCE.

It would appear that 15 or 16 eggs are annually imported from France for every head of population in Great Britain; and when it is taken into consideration that France imports no eggs from other countries for home consumption, the importance of this trade to France will at once be apparent. When it is estimated that the importation of eggs from all sources into England amounted to \$12,177,750 for the year 1881, and though poultry thrive nowhere so well as they do in the United States, it seems strange that the American farmer has no share in this commerce. I will show, further on, the trouble and expense the European farmer is at in keeping his poultry—a trouble and expense not known to the American, because my experience has been that poultry in America thrive just as well on their “own hook” as when they are fed. The hens lay as well and are not subject to the numerous diseases known to the breeders of poultry here. Who would ever think in the United States of having shepherds or guards for their poultry, and not only that, but veterinary surgeons? In France such things are known, and all large poultry raisers have a guard for their fowls. In 1881 it is estimated that 792,000,000 eggs were imported into England, or about 2 dozen for each man, woman, and child. “If we reckon the population of France at 37,000,000, we find that for every individual in France one dozen eggs are imported therefrom into England, and, computing five persons to each family in France, the British public pays to every six French families an annual sum of over \$5 for eggs,” which I propose to show should not only

*See supplementary statistics, p. 523.

go to the United States, but that we should supply France itself with eggs. It will be perceived from what I have just quoted that France must produce annually a grand total of nearly 2,000,000,000 eggs. The total value for poultry and eggs I estimate at nearly \$75,000,000. A million or two short of this I may admit, but not more, and this does not materially affect the great result.

In only a few instances is this great result achieved by large producers. In most instances the middleman pops up and collects the eggs from numerous small producers and exports them to England. The egg-producing districts of France are principally Normandy, Picardy, Artois, Soissonnais, Vexin, and Brittany.

In each and all of these places every farmer gives close attention to his poultry, and is rewarded by only small profits, the middleman coming in for his share. Nearly every farmer has a reserve for his poultry and, as I said before, some one to keep watch over them. Good care is given to the roosting place to have it dry, and in most instances near a stable, because a stable is always warm, and the manure in that way is easily utilized, which is no mean item to the French farmer, who has an eye to everything, not even allowing a feather to be lost. Besides the reserve, the fowls are fed twice a day with oats or wheat. It will be seen that in my dispatches, in speaking of agriculture, I always take a Southern standpoint and treat matters in this line from that. This is simply because I know no other agriculture, being a Southern man. I think our poultry does better when allowed to shift for themselves and pick up their food wherever they can find it. When fed they become too fat and lazy to lay. A fat fowl does not lay as many eggs as one in a tolerably fair condition, and chickens or other fowls are in this respect like men—they must take a certain amount of exercise in order to thrive well. In France the condition for fowls is not favorable. The running feed that the American fowl finds as a reward for his industry the French fowl misses, and hence must be fed. The climate is damp and cold, therefore special attention must be paid to the roosting place, that, owing to more favorable conditions of climate, is not necessary in the United States. An American fowl does just as well, and in my opinion better, in a tree than closed up in a house if provisions are taken to protect it from its well-known enemies, and those precautions are very simple. I have "raised" a great many and a great variety of fowls, and my observation has led me to the conclusion that fowls do better when not closed up in a house as a roosting place.

Nature has made the fowl for the air as manifestly as the fish for water, and my experience has been, when you take them out of their native element, in proportion they become sickly, diseased, and hampered in their production; and I am convinced that the more food is given them the more you fit them for the table, but not as producers of eggs. I mention these things more to show the numerous troubles that the American farmer can avoid which are known to the French, as well as the expenses incidental to such troubles. I am aware that there are grave and serious obstacles in the way

of the American farmer in competing with the French. The greatest is the transportation and the time required in transporting the eggs so as to preserve their freshness. In this one respect the French farmer has a decided advantage; but with the proper arrangements on our steamers, American eggs can be placed in Liverpool, Antwerp, Havre, Bremen, and other European ports in almost as fresh a condition as when they left the United States. I have been informed by captains of steamers that ply between America and Europe that they supply themselves with eggs for the voyage in America, and that they last during the round trip. This being the case, this obstacle of time and transportation is not a serious one.

PROFITS OF POULTRY-RAISING.

It is estimated that the French farmer realizes a profit from his poultry ranging from 17 to 50 per cent; in some cases it has gone as high as 85 per cent, though the average is not much above 20 per cent. This is an excellent showing for a pretty, easy, and interesting industry, where a man can nurse his laziness and at the same time make money. It has been estimated by Frenchmen who have investigated this matter closely that one hen can lay in three years 450 eggs, or 150 per annum, and that by doing this she pays for herself twice in the time, leaving a double profit on the eggs that she has given her owner and returning him the capital originally invested in her purchase at the end of the time when she is sent to the market, as it is supposed that after passing that period when she is no longer useful as an egg-producer is the best time and age for the table. The interest of rent of land, cost of building for roost of fowls, guard or care-takers for fowls, loss by death from diseases, etc., which is very heavy in France, much more so than in the United States, will more than make the difference in cost of freight from America to Europe and place the American eggs on the English market cheaper than the French eggs. This is the one great thing that will tell in the long run in favor of the American farmer.

POULTRY AND EGG INDUSTRY IN ENGLAND.

In England, M. T. Mainwaring has published an account of his experience as a poultry "raiser," from which I see that from an outlay of £137 15s. 4d. he has reaped a profit of £19 6s., and this in a climate as dismal and cheerless and uncongenial to poultry as it is to vegetation, where the greatest care must be taken and expenses incurred to which the American farmer is an utter stranger. Where can a business be produced that can make a better show of profits than this? I copy the following from Mr. Mainwaring's statement in order to show the best breeds of fowls as producers of eggs.

Mr. Mainwaring's egg account for the month of January, 1882.

House.	Breed.	When hatched.	Number of eggs laid.
1	34 Black Hamburgs.....	March and April, 1881...	423
2	32 Andalusians.....	do.....	242
3	16 Langshans.....	May 30, 1881.....	93
4	94 Crossbreds.....	March and April, 1881...	78
5	16 Light Brahmas.....	May 4, 1881.....	47
6	25 Brown Leghorns.....	April, 1880.....	20
	10 Andalusians.....		
	7 Black Hamburgs.....		
7	97 Houdans.....	March and April, 1881...	418
8	3 Dorkings.....	April, 1881.....	9
	334.....		1,330

This table shows a large percentage in favor of the Hamburgs in house No. 1. Mr. Mainwaring, beyond question, shows that the Hamburgs are the best egg-producers. Another statement from London shows equally the superior merits of this bird, the average being in London 139 per hen for the year. The same breed of fowls under the more congenial and more stimulating climate of the United States, I am sure, would average more than this, with no expense or attention more than the purchase of the fowl. This same account goes on to show that a profit of £1 was realized on an outlay of £4. I could go on without end to show the enormous profits in this industry here in Europe. The statistics have been collected by me in valuable statements and tables, but I have abridged this report as much as possible and tried to confine myself to the most important facts. I have known this breed of fowls (the Hamburg) in Georgia to lay as many as two eggs a day, and with a little attention to keep them from sitting I believe that they could be made to produce in most of our American States from 270 to 295 eggs per annum. The price of eggs in England ranges from 22 to 35 cents per dozen, but it is seldom that it is as low as the former. In 1881 the price stood at 50 cents for almost the entire year, and has been on the increase for a number of years. Now, let me suppose that the American fowl will not average more than the English fowl, and let me suppose that eggs are only 15 cents a dozen, the 139 eggs (English hen's average) is 11 dozen eggs at 15 cents, \$1.65. If eggs should be as cheap as 15 cents, the fowl would be proportionately cheap, not more than 25 or 30 cents; but here is a handsome profit even if the hen should have cost \$1, and the hen remains, there being no loss in the commodity in which the money was invested.

AMERICAN TURKEYS AND CHICKENS FOR EUROPE.

Thus far I have said nothing about the raising of poultry. There ought to be a market found equally for the American turkeys and chickens in most of the European states. The turkey is never seen here on the table, except in rare cases, such as wedding feasts and the like, save, of course, the tables of the opulent. In the United States it is no dearer than the chicken in pro-

portion to its size. I am as sure of its being a marketable fowl in Europe as I am of its being in the United States, with a little effort on the part of our exporters. There are thousands of well-to-do people in Europe that have never tasted this fowl, and I have traveled in most of the European countries, and dined many times at the *table d'hôte* of the best hotels here, and never in my life have I seen it on the table. Now, this is a strange fact—that this bird that so justly ranks as the first for our tables in point of merit should be almost unknown in Europe, while it is within reach, and frequently forms part of the dinner, of our laboring classes in the United States. It is manifestly for the want of effort on our part that this is the case, and I sincerely hope that this effort will be made, and that the American turkey will one day be as well known here as the American hog.

I have, for the sake of brevity, abstained from producing the numerous tables I have been at the trouble to collect, showing the immense profits in a business of this kind here in Europe. Those who know the European climate, know how unfavorable it is, know the expenses that attach to raising poultry here, can at once see the immense advantage the American poulterer has over the European. He has this advantage in everything if it could but be followed up. His fowls, which can be "raised" with little or no effort on his part, can be made comparatively as great a source of revenue to him as the hog, or his wheat or cotton.

GEORGE C. TANNER,
Consul.

VERVIERS AND LIEGE, BELGIUM.

EGG AND FOWL IMPORTS INTO THE UNITED KINGDOM.

[Statements prepared in the Bureau of Statistics from British official returns.]

Imports of eggs into the United Kingdom during the years 1880-'92.

Year.	Quantity.	Value.	Value per great hundred.
	<i>Gt. hundred.*</i>		
1880.....	6, 228, 405	\$10, 877, 784	\$1. 75
1881.....	6, 305, 993	11, 305, 616	1. 80
1882.....	6, 766, 020	11, 506, 690	1. 71
1883.....	7, 836, 968	13, 294, 180	1. 69
1884.....	8, 280, 073	14, 162, 459	1. 71
1885.....	8, 356, 568	14, 163, 400	1. 68
1886.....	8, 626, 428	14, 033, 851	1. 63
1887.....	9, 084, 077	15, 015, 319	1. 65
1888.....	9, 389, 939	15, 002, 691	1. 60
1889.....	9, 432, 503	15, 218, 813	1. 60
1890.....	10, 291, 246	16, 684, 570	1. 62
1891.....	10, 628, 214	17, 057, 919	1. 65
1892.....	11, 139, 419	18, 465, 098	1. 66

* 1 great hundred = 120.

Imports of eggs into the United Kingdom from the several countries in 1892.

Countries.	Quantity.	Value.	Value per great hundred.
	<i>Gt. hundred.*</i>		
France.....	3, 512, 174	\$6,993, 429	\$1. 99
Germany.....	2, 751, 340	4, 025, 131	1. 50
Belgium.....	1, 985, 768	3, 061, 999	1. 54
Denmark.....	1, 247, 968	2, 011, 940	1. 70
Russia.....	1, 254, 323	1, 725, 994	1. 38
Canada.....	248, 764	404, 000	1. 64
United States.....	42, 125	76, 056	1. 80
Portugal.....	27, 213	49, 283	1. 81
Sweden.....	24, 119	38, 631	1. 60
Spain.....	13, 997	27, 138	1. 94
Holland.....	10, 819	17, 391	1. 61
All other countries.....	20, 809	34, 106	1. 64
Total.....	11, 139, 419	18, 465, 098	1. 66

* 1 great hundred = 120.

Imports of poultry and game, alive or dead, into the United Kingdom in 1892.

Countries.	Value.	Countries.	Value.
France.....	\$1, 136, 396	Norway.....	\$37.045
Belgium.....	801, 703	United States.....	34, 748
Russia.....	390, 205	Argentine Republic.....	9, 932
Holland.....	228, 532	All other countries.....	3, 633
Germany.....	100, 780	Total.....	2, 838, 970
Denmark.....	95, 996		

AFRICA.

BARBARY STATES.

INTEREST IN FOWLS.

In Morocco no special interest is taken by the natives in fowls, which are never confined, but are allowed to run free about the villages to which they belong.

From time to time some Europeans have imported a few Spanish fowls, Cochin Chinas, and other varieties, which have gradually become mixed with the native fowls, and it is therefore impossible to describe the native breed otherwise than as mongrel.

VARIETIES.

The birds are of various colors, shapes, and sizes; hens are without combs, no feathers on the legs, but sometimes with crest; the color of the legs is usually dark gray; the skin is white, with yellow streaks when fat.

BREEDING TRUE TO TYPE AND COLOR.

No fowls are bred by the natives as pure breeds, but a few Europeans endeavor to keep pure breeds of European extraction with a view to obtain larger eggs than the native fowls produce, which are generally rather small; but, there being no special breed of native fowls, these can not be expected to breed true to type or color. They are, however, usually good sitters and careful of their broods.

PURPOSE FOR WHICH FOWLS ARE KEPT.

They are kept as much for food as for eggs, in which a considerable export trade has arisen during the last few years. The eggs are small, but considered of fine flavor.

The raising of capons prevails to a large extent, and good-sized capons are produced, which, when properly fed, are much superior to any other fowl.

ARTIFICIAL INCUBATION.

Artificial incubation is absolutely unknown in Morocco,

CLIMATE.

The climate along the seaboard is good, the thermometer rarely rising above 80° in the shade in the summer and not often falling below 40° during the winter. In the interior and south of Morocco the heat is much

greater during the summer, but it does not seem to affect the fowls, which can be purchased for export in the open markets and villages of the interior all over the Empire. Purchases in the latter places are always made by native agents, and it should be borne in mind that chicken pox is very prevalent and at times causes great mortality among the fowls.

EXPORTS.

The following table shows the export of fowls and eggs from the ports of Morocco during the years 1888-'91, which will give an idea of the average export:

Articles.	1888.	1889.	1890.	1891.
Eggs.....thousands...	28,372	35,503	26,651	24,566
Fowls.....dozens...	9,099	6,997	7,012	10,910

F. A. MATHEWS,
Consul-General.

TANGIER, *July 12, 1893.*

BRITISH AFRICA.

NATAL.

INTEREST IN FOWLS.

A great deal of interest is taken in fowls in this colony.

VARIETIES.

Almost all varieties are kept here, the most usual being perhaps the Brahma, Plymouth Rock, Indian Game, White Leghorn, and the Spanish breeds. They are of fine size and plumage, according to their various breeds.

BREEDING TRUE AND PURE.

When proper attention is paid to the breeding of fowls they breed true to type and color.

All of these fowls are bred as pure races. Of course, with the majority of people here, the breeds are allowed to mingle, and the strains become complicated.

SITTERS AND NONSITTERS.

The above-mentioned breeds are good sitters, except the Brahmas. As a rule, the well-bred fowls are not allowed to sit, as the common hens are utilized for this purpose.

PURPOSE FOR WHICH FOWLS ARE KEPT.

The principal purpose for which each variety is kept is for eggs, with which to improve poor stock ; but fowls are kept also for food.

FANCY FOWLS.

Fancy fowls do not find favor here, and except by one or two fanciers they are not kept.

ARTIFICIAL INCUBATION.

Artificial incubation, as a rule, is not employed as a method for propagating fowls, although such means have been successfully tried here.

CLIMATE.

The climate is well suited to fowl-raising, in that it is warm in the summer and not too cold in the winter. The winter is dry throughout, rain seldom falling ; in the summer the heat is sometimes trying, but heavy rains occur, causing a great deal of vegetation to crop up which is used as food for poultry.

DEALERS AND EXPORTERS.

There is a cheap variety of fowls here, usually bred by the natives, which sells for from 24 to 60 cents each. These and other fowls can be obtained in this town from Mr. C. P. Harvey, 374 West street, Durban, Natal, and can be exported by steamers plying between this port and New York.

J. PERROTT PRINCE,

Consular Agent.

DURBAN, *July 20, 1893.*

SIERRA LEONE.

No special interest is taken in fowls here.

Common barnyard fowls are the kind generally found. Now and then a cross of Shanghai is seen. The native fowl is small, of fine shape, clear-cut comb, no feathers on legs, white and black in color, and sometimes mixed red. The legs of the greater portion are yellow.

They are invariably good sitters. Fowls are kept both for eggs and food. Artificial hatching is not known in this country.

The climate is, generally speaking, to be described as follows: From May to October is the rainy season proper; from November to April constitutes the dry season. During the season called dry there will be occasional showers at night and heavy dews, which keep vegetation in growing condition, although during January, February, and March rain seldom falls and the mercury ranges between 80° and 95° daily in the shade; but the heat is not oppressive in the shade to a person acclimated. The fall of rain here, as

per Government statistics, measured during the rainy season 144 inches in six months, with the average temperature of 80° to 90° as the daily range.

The native people have sole control of raising and selling fowls. No persons make a special business of poultry-raising, although poultry is easily raised here in the dry season.

The exportation of fowls from here for food would not pay. Fowls brought here from cold climates will not thrive until they become acclimated and shed their heavy coats. The heat suffocates them.

BOLDING BOWSER,
Consul.

SIERRA LEONE, *July 4, 1893.*

EGYPT.*

INTEREST IN FOWLS.

Special interest is taken in fowls in this consular district, and poultry-raising is a very considerable industry in Egypt.

VARIETIES.

The Danderah, Begaony, Balladi, and Indian are the principal varieties kept, and, as far as I can discover, the only varieties. The Begaony comes from Southern Egypt and is a big-crested chicken, generally gray. The Danderah is a little smaller, also crested, and most frequently brown, with yellow skin. The Balladi comes from Cairo, and is a smaller chicken, with a small crest; gray, white, or red, with a white skin. The Indian came originally from Hindostan, and is sometimes bred for fighting. It is apt to be dark, often red and yellow, with a red skin. All have bare legs of white and yellow color.

BREEDING TRUE TO TYPE AND COLOR.

None of these varieties breeds true to type and color. Some attention is given to breeding the big Begaony and the Indian.

SITTERS AND NONSITTERS.

They are sitters by instinct, but nonsitters in practice as a rule.

PURPOSE FOR WHICH FOWLS ARE KEPT.

The purpose for which each variety is kept is both for eggs and food. The Danderahs are the best layers.

FANCY FOWLS.

I can not find any fancy fowls. The Indian is often bred as a gamecock.

* For a particularly interesting and valuable report upon "Artificial Incubation in Egypt" the reader is referred to CONSULAR REPORTS No. 118, p. 502.

ARTIFICIAL INCUBATION.

Artificial incubation is employed as the common method of propagating fowls.

CLIMATE.

The climate of this territory varies from the cool sea breezes of Ramleh to 115° in the shade at Suakim. From Alexandria to Wady Halfa the climate is hot in summer and mild in winter.

DEALERS AND EXPORTERS.

Fowls for export can be had from Dollinger & Co., of Alexandria. I can not see, however, why anyone in the United States should wish them. The agricultural college imports chickens from Scotland and the Wyandotte chicken from the United States. Just at present there is a disease among the chickens of Egypt which is very discouraging to their friends.

E. C. LITTLE,
Agent and Consul-General.

CAIRO, *June 28, 1893.*

ORANGE FREE STATE.

No special interest is taken in the breeding and rearing of fowls in this State.

With one or two exceptions (the Black Spanish and Dorkings) the common barnyard fowl is the only kind seen. They are of all colors, with and without feathers on legs, and mostly with combs.

None of these breed true to any type or color.

With the exceptions before mentioned of Dorkings and Spanish, and there is doubt even of these, none are raised as pure breeds.

They are mostly very good sitters.

All fowls are kept for both eggs and food.

No fancy fowls are to my knowledge bred.

Artificial incubation is never employed.

Our climate, being a very dry one, is admirably suited to the breeding and rearing of poultry. But, of course, fowls are subject to diseases here as elsewhere, one of the worst being usually designated by the local name of "blue comb," the fowls apparently dying from apoplexy. This is, however, supposed to be attributable to overfeeding late in the day.

Fowls are daily sold in the markets by the surrounding farmers, but there are no people in the country who make their breeding and rearing a business. Live fowls are sold at from 25 to 50 cents each, and eggs the same price per dozen.

E. R. LANDGRAF,
Consular Agent.

BLOEMFONTEIN, *July 20, 1893.*

No. 159—8.

PORTUGUESE AFRICA.

MADEIRA.

INTEREST IN FOWLS.

With the exception of two or three persons very little interest is taken by anyone in fowls in this district. Antonio da Silva Reis, one of the custom-house officers here, is a breeder of fancy fowls and has some thirty-five varieties, all of which are distinct and separate families. Some of these are bred from first-prize birds from England, France, Spain, and Asia. He also has a variety of small birds from continental Africa.

VARIETIES.

The varieties of domestic fowls kept are the Sultans, Polish, French Houdans, Black Minorcas, Hamburgs (silver spangled), Orpingtons (rose combed), Andalusians, Langshans, Brahmas (light and dark), Dorkings (light), Partridge, Wyandottes (golden laced), Cochins, Black-red Game, Brown-red Game, Malay, Red Caps, Silkies (red faced), etc. The above are among the principal of Mr. da Silva Reis's collection. Brahmas, Partridge, Plymouth Rocks, and Buff Cochins are the largest, but not the best layers. Mr. da Silva Reis tells me that one of his Brahma birds weighed, when dressed, as much as 16 pounds, and another of the same variety 10 pounds 11 ounces. Birds of that weight do not lay. Those were exceptionally heavy birds, the average weight of birds of that variety, when dressed, being 8½ pounds. The Brahma family (compared with the Andalusians) are poor layers; color of legs, something like a pale yellow; skin, clear, milkish color.

Mr. Hinton, another breeder, who keeps a nice variety, has among his collection dark and silver Brahmas and Brown Leghorns.

The common breeds in this district are Cochin Chinas, Plymouth Rocks, Andalusians, and Black Spanish, all good layers. The crests of the Brahmas are inclined to be rose-colored; in all there are eight varieties of them, well feathered on legs.

BREEDING TRUE TO TYPE AND COLOR.

Brahmas breed true to type and color, but though good layers, they are not good mothers.

TRUE TO BREED.

Mr. da Silva Reis keeps the different families in separate groups, and for the most part breeds true to race and color. Plymouth Rocks, Light Brahmas, and Cochins are bred true to type. The fowls bred as true races are the Polish, Houdans, Silkies, and the Brahmas.

SITTERS AND NONSITTERS.

As Mr. da Silva Reis uses artificial incubators, he is not prepared to testify as to the sitting qualities of any of the varieties except Brown Leghorns, which are nonsitters.

PURPOSE FOR WHICH FOWLS ARE KEPT.

The best layer is the Andalusian. It is not a large bird; but it is the best layer, is a good mother, and its flesh is good food. The Hamburg family, in all its varieties, possesses the same characteristics as the Andalusian. Mr. Hinton says that all his poultry are kept for both eggs and food.

ARTIFICIAL INCUBATION.

Mr. da Silva Reis has always employed artificial incubation, both here and in Portugal. As I understand, his was the first incubator which was introduced into Madeira. Recently Mr. Leacock imported an incubator from England and is doing a little with it for local use. His varieties consist of little Spanish and Cochins. He says they are good layers. The average price of the small number of eggs which he has sold would be about 12 cents per dozen the year round, and that may be taken as the general average price. The birds which he sells average from 30 to 40 cents each at 6 months; the general average at the market for a bird of 6 months is 35 cents.

There are two or three other persons who have imported incubators this spring simply for local use.

Messrs. Bresser and Northcote, the former being the foreign business correspondent of a wine firm here, and the latter the late clerk at the British consulate, are two young men who have just entered into partnership in the poultry business. They begin, as I am informed, with 1,000 chickens and have their incubators at work. Mr. Bresser informs me that when they get properly at work they will increase the number to 10,000 chickens, which will supply a long-needed want here. Among some of their varieties are the following: Dorkings, Black Spanish, Brahmas, Leghorns, and Cochins. They will always find a ready market for their eggs and chickens on steamers to and from South America and African ports and vessels going to the Cape of Good Hope, etc. At the Cape of Good Hope there is an excellent market for eggs. Large quantities are shipped thither from here.

CLIMATE.

The climate is very mild and genial throughout the whole year, so that poultry-raising can be carried on to good advantage so far as the climate is concerned. However, food—that is, grain—is extremely high, though milk, which is a very important factor in the poultry business, is cheap. Fruit, which is also an important element for laying fowls, is also cheap.

DEALERS.

Mr. Antonio da Silva Reis, above referred to, is the only person I know in this district who can furnish suitable fowls for exportation to the United States; and, as he is in the importing and exporting business, he will be likely to attend to any orders that may be forwarded to him.

JOHN F. HEALY,

Consul.

FUNCHAL, *July 20, 1893.*

MOZAMBIQUE.

INTEREST IN FOWLS.

The raising of poultry in this province can hardly be called an industry. The natives, who are practically the only raisers of fowls, take little interest in them beyond providing coops and now and then a little food, though, as a general rule, they are left to forage for themselves as best they can, the only care taken being their safe housing at night, out of reach of prowling nocturnal animals.

VARIETIES.

No particular varieties of poultry are raised or kept. Both hens and roosters are small and wiry, not much larger than good-sized Bantams. Their color is generally a reddish brown or dingy black. The combs and wattles are small and the legs long, rough, and without feathers.

BREEDING.

In breeding, as in keeping, little attention is paid by the natives, and no fowls breed true to type or color. Pure races are unknown. As a general rule, they are nonsitters.

FANCY BREEDS.

No fancy fowls are bred, but two varieties of Guinea fowls are found wild in the forest. When captured they are easily domesticated and thrive as well in a chicken yard as in their native wilds. In size they resemble the American fowls of the same species. One variety has black legs and eyes; the feathers of the wings and body are of a grayish black, with fine spots the size of a pin head of mottled green and white. The neck is bare of feathers for about 2 inches from the base of the skull, and the exposed skin is of a brilliant purple. A topknot of fine, black feathers about 2 inches in length is a distinguishing feature of this variety. The bill, which is stout and heavy, is purplish at the base and yellow at the tip.

The other variety is much like it, but with a blunt, yellow, horn-shaped excrescence about an inch high in place of the topknot, and with a thick, red cartilage extending from the base of the bill to the base of the throat and up to and almost around the eyes, the whole head and upper part of the neck being entirely destitute of feathers.

ARTIFICIAL INCUBATION.

Artificial incubation is unknown in this province.

CLIMATE.

The climate in this consular district is tropical, and the heat is intense.

DEALERS.

Poultry for exportation to the United States can be secured through this consulate.

W. STANLEY HOLLIS,
Consul.

MOZAMBIQUE, *August 5, 1893.*

ZANZIBAR.

There is no interest taken in fowls on this island, and but one kind is known here.

In size it is small, with white skin and legs and no crest or comb. The color is usually light gray, though many are black. None have feathers on legs.

It does not breed true to type and color, and is not raised as a pure breed.

It lays an egg very little larger than a Bantam's, and is nearly always a sitter.

It is kept entirely for eggs and food, and could not be bred for a "fancy fowl."

Artificial incubation is never employed here.

The climate of this island is very hot and unhealthy, and the meat of fowls is white and tasteless.

The fowls which are able to stand this climate are said to have been bred from a stock brought here from Bombay, India, many years ago, and all other breeds which have been brought here from time to time have died, usually within a few months.

C. W. DOW,
Consul.

ZANZIBAR, *July 25, 1893.*

AMÉRICA.

ARGENTINE REPUBLIC.

INTEREST IN POULTRY.

The poultry industry is a branch of business in which, so far as I can learn, no special interest has ever been manifested by the Argentines. Indeed, though domestic fowls have been raised in this country ever since the Spanish conquest—originally from importations from the Old World during the first century after the discovery of South America—such little attention has been paid to the industry that it is only within the last few years that the markets have been at all supplied with the ordinary barnyard fowls. Through all the earlier years of the Spanish viceroyalty beef, mutton, and “hard tack” was the food of the *gauchos*, and beef, mutton, and native bread (*pan criolla*) of the inhabitants of the cities; and in some years, as but little wheat was raised in the country, the bread part of the dinner was left out.

In later times, however, in all parts of the country chickens, ducks, geese, and turkeys have been reared by the wealthier people who lived outside the cities, either at their country seats or on their farms, or on their cattle and sheep ranches; but the increase was entirely for their own use and not for the market. I can remember that twenty years ago it was almost impossible to obtain poultry in this city, except at the most exorbitant prices, unless some friend in the “camp” sent them as a present. In more recent years, with the increase of European immigration, a large proportion of which has consisted of agriculturists and small farmers, the poultry industry has been prosecuted with considerably more interest and not a little profit. Nowadays the markets of this city are plentifully supplied and at moderate prices.

VARIETIES OF DOMESTIC FOWLS.

In regard to the different varieties of “domestic fowls” raised in the Argentine Republic, a detailed description of which is desired, I am somewhat at a loss to know what birds to include under this designation, since the barnyards and paddocks here are stocked with some classes which may not come within the purview of the inquiry. However, I give them all in the order of their size.

Ostriches.—These birds—the *Rhea americana*—are chiefly found in the wild state on the plains of the Argentine Republic and Patagonia, but on nearly all the great *estancias* and country seats of the wealthy people of this

country they are now kept in large numbers in a domestic state, the pastures and grazing "camps" in the neighborhood of their residences being well stocked with these great, gray birds, thoroughly tame and tractable. It must be confessed that as they parade around the premises and mix with the smaller domestic fowls the effect is very picturesque and decidedly ornamental to a country place. As they require no attention whatever, being able to make ample provision for themselves from the grasses, insects, etc., of the pampas, they are allowed to breed *ad libitum*. The Argentine ostrich is from 4 to 5 feet in height, and its plumage is gray or grayish black, with some white feathers on the breast. Their flesh is eaten, and even relished, by the Indians, who capture them in a wild state with their *bolos*, but it is too coarse to suit the tastes of civilized people. The eggs are somewhat strong, though when cooked as an omelet they are rich and palatable. I have seen as many as 27 eggs in a single nest. The female, however, when she has finished her laying, leaves the eggs for the male bird to incubate, and he does the work patiently and effectually. The commercial value of the ostrich consists principally in its feathers, large quantities of which are exported to the United States to be made into dusters, *plumeros*, brooms, brushes, etc. Recently, however, the feather factories of this city have learned the secret of dyeing the plumes with the most gorgeous colors, and now, as ornaments for ladies' bonnets and hats, they are easily mistaken for those of the African bird.

Peacocks.—The peacock (*Picus phasianidæ*), I believe, is a native of India, but it was brought to this country in the early years after the conquest; and is now to be found in the domestic state in all the different provinces. The description of the bird in the United States applies fully to the one in the Argentine Republic. It is probably the most attractive species of birds which is to be found in the barnyards of this country; and it is a great favorite with all Argentine *estancieros*. With its crest of exquisite green and gold, its body brilliantly variegated with changeable feathers, and its splendid tail spangled with eyes, which, when erect, forms a circular fan of most resplendent hues, it never fails to command the admiration of all beholders. The hens are quieter in color and disposition, and seem quite content to act as satellites to so much splendor. The peacock is for the most part kept as an ornament to the barnyard and paddock; but its flesh is savory and palatable, and when served up by the natives on extraordinary occasions, such as weddings or christenings, is greatly esteemed. It sheds its plumes every year; and, when thus moulting, through disgust at the change in its personal appearance, it very carefully keeps out of sight. Its plumes, thus shed, are used here as parlor or fireplace ornaments.

Turkeys.—The ordinary domestic turkey (*Meleagris phasianidæ*) is not indigenous to the Argentine Republic, though there is a wild turkey found in the wooded parts of the country which in some of the provinces has been domesticated. Those raised in this part of the Republic, however, are from stock imported originally from Europe. These birds are very generally to

be seen in country barnyards and corrals, and the markets here are kept well supplied with them. Owing to the lack of cold weather and the absence of limestone in the soil, the flesh never attains to the excellence and fine flavor which it reaches in the United States during the winter months. Its size here corresponds to that of the bird in the United States and Europe—say $2\frac{1}{2}$ to 3 feet in length—and it has the same plumage, *i. e.*, the general color is black, variegated with bronze or invisible green. Some, however, are pink and white. They have eighteen feathers in the tail, and the male birds have tufts of black hairs several inches in length. In this country they lay during the spring and summer, and usually sit on from 15 to 20 eggs. The young, when the grass is high and damp, require at first to be well cared for; but after attaining their feathers they wander over the meadows with the rest of the flock without the need of any further attention.

Geese.—The wild goose here, in all its characteristics, corresponds to the common *Anser ferus* of the United States. Domesticated, the bird is found in all parts of the Argentine Republic. The male birds are white, and the females gray. They lay from 10 to 15 eggs before they commence their incubation; and, as the summers here are very long, they will sit the second time if not prevented. Though geese are to be found in the markets here, they are not much sought after as food. The meat is rather too oily for this warm climate. The eggs are not generally seen in the market. The bird, however, on account of its wealth of downy feathers, is a great favorite with small farmers.

Ducks.—The common wild duck (*Anas anatine*) or the Mallard (*Anas boschas*) is the original stock of the domesticated bird of the Argentine Republic. Two varieties are to be found here: one very large, black, tipped with white, and a flaming red head, with white ears; the other is the size of an ordinary wild duck, and is generally of a dull-black color, with invisible green feathers. The former is an excellent food bird, delicious and savory when roasted, while the latter is served to better advantage as a stew. These domestic ducks, from a culinary point of view, are considered here as a most valuable addition to the barnyard. Besides their exquisite flesh, their eggs are sought after. The bird can be raised with the greatest facility, subsisting on the refuse of the kitchen and barnyard. They are great layers and easily fattened, and their young from the beginning will take care of themselves.

GALLINACEOUS FOWL.

Under this head is included the whole genus of birds of the family *Phasianide*, comprising our domestic varieties of poultry brought up in the farmyard for the table, but yielding also a profit in their eggs, their broods, and their feathers. These birds, though they are said to have originally come from Persia or India, are now known all over the world. A very minute description would hardly seem to be necessary. All the varieties, however much they may differ in size and plumage, have some character-

istics in common. That is to say, the head of the bird is surmounted by a notched, crimson, fleshy substance called a "comb," sometimes single and sometimes double, and two pendulous, fleshy bodies called "wattles," or "gills," hanging under the throat. The cock is provided always with a sharp horn or spur on the inside of each leg, while the hens have a mere knob. There is, besides, in both sexes below the ear an oblong spot, the interior edge of which is reddish and the remainder white. The plumage, in great part, depends upon the breed of the fowl. The following are the principal kinds which are now to be found in the Argentine Republic:

Dorkings.—These fowls are brought here as breeders from England, where they have been long held in great esteem both for food and for eggs. They have the peculiarity of an additional spur. The color is white, and the legs are short.

Polish.—These are large, black birds, with a white tuft on the head. They have dark legs, are very domestic, and are valued for their almost uninterrupted laying of eggs.

Spanish.—These fowls are great favorites here, not merely for their flesh, but for their egg-producing qualities. They are of a glossy black color, with very white cheeks and flaming red comb. They have bluish-black legs, and are handsome and stylish in their movements. The name here for them is "Catalanas."

Hamburgs.—These are large, stately birds, and with their silver-spangled plumage, tipped in some places with black, present a fine appearance in the poultry yard. They have bright-yellow legs. Besides being valued for food, they have the reputation not only of being good layers, but good sitters, and the hens are careful mothers to their chicks.

Cochin Chinas.—This is a tall, ungainly, top-heavy variety of fowl, with a large body and small tail and wings. Its legs are covered with feathers. It is a great favorite with market purveyors for its excellent flesh, its great fecundity, and its frequent incubation; indeed, in this latter respect it is almost too eager, since it will begin to sit on 4 or 5 eggs.

Bantams.—This variety, I believe, is a native of the East Indies. It is principally remarkable for its small size (being only about 1 pound in weight) and for its pugnacious disposition.

Game.—These beautiful birds are the admiration of the Argentines, not merely for their delicate flesh and their egg-producing powers, but for their fighting qualities. In many parts of the country the natives have a fondness for the cockpit. These chickens stand very erect, have a slender body, a small head, a black and dark-red coat, and lead-colored legs. The only trouble with the cocks is that where they are allowed to run at large they at once assert their supremacy and drive the males of the more amiable varieties of fowls entirely away from the premises or kill them in deadly encounters.

Brahmas.—These are a well-known variety of fowls, with immense bodies, standing almost as tall as turkeys. There are two kinds to be found in this country—the gray and red and the white—both excellent for food

and as layers and incubators. Their legs are covered with feathers; and with their fine appearance, the birds are great favorites with those who are in the poultry business.

Common fowls.—The common “dunghills” are the general stock of the country. While the others are kept as special breeds, in breeding establishments, separate and distinct, the dunghills are the product of an intermixture and may be considered as crosses of the pure breeds. The usual Spanish designation of them is “gallinas criollas,” *i. e.*, born in the country of original European or Asiatic stock. They are similar in all respects to the ordinary barnyard fowls which are to be found in the United States—less graceful, less pugnacious than the game birds, but of good size, healthy, easily raised, and greatly attached to their homes. It is from these birds that the poultry markets of this city are in great part supplied. Their plumage is as varied as that of the different races from which they originally sprang.

GUINEA FOWLS.

The Guinea fowl, or *pintado*, is a variety of bird also very frequently seen in the Argentine Republic, but it does not appear to be very greatly prized. Indeed, on account of the disagreeable noise it makes upon the least provocation, it is sometimes considered—especially in the neighborhood of the dwelling—a great nuisance; and, if it is transferred to the paddock, it has to be closely watched, as it gives no notice of its laying or its sitting. Its flesh, however, is regarded as a delicacy; and its eggs, though small, are of most excellent flavor.

PIGEONS.

The domesticated pigeon is everywhere to be found and everywhere provided for in the Argentine Republic. The vast plains here afford excellent feeding grounds for them, and no *estancia* throughout the pampas is without its pigeon house or dovecots, generally a few hundred yards removed from the family domicile. These pigeon houses are in most cases of large proportions, built of brick, two stories high, and so arranged that at any time the birds can be closed in and caught, the young squabs, half grown, being considered as a great table delicacy. No provision, however, is made for their sustenance, their food and drink being found by them in unlimited quantities in the grasses, insects, and lagunas of the camp. In their search for food they sometimes make very long journeys, but they faithfully return to their homes at nightfall. Indeed, no bird in this country succeeds better or gives less trouble. They moult once every year. The ordinary stock pigeon is in color blue, blue black, blue and white, and pink and white. Their legs are short and red, and the toes are divided to the base of the leg. While this is the tame pigeon of the country, there are to be found in the bird stores here a number of other fancy varieties, such as the fantails, the pouters, the carriers, the croppers, the shakers, the owls, etc., but of which it is not necessary to give descriptions.

BREEDING TRUE TO TYPE AND COLOR.

There are breeding establishments in different parts of the country, where all the distinct breeds are especially raised and where those who are seeking the different varieties can always find them on sale. There are also bird stores in Buenos Ayres, where, in coops of a cock and two hens, all the various pure bloods can be purchased; and I am informed that, with very rare exceptions, the pure breeds originally imported from Europe or Asia breed true to type and color in the breeding establishments of the Argentine Republic.

PURPOSE FOR WHICH FOWLS ARE KEPT.

The principal purpose for which the different varieties of barnyard fowls are kept is both eggs and food. While there are set apart a number of select hens, on account of their egg-producing qualities, the increase of the chickens and the surplus of the eggs find their way to the markets of the country.

As giving some idea of the consumption of fowls and eggs in the Argentine Republic, I subjoin the following returns of the quantities sold during the years 1890-'92 in the markets of the city of Buenos Ayres:

Description.	1890.	1891.	1892.
Hens.....number...	512,483	596,200	728,155
Chickens.....do.....	503,445	451,608	507,836
Turkeys.....do.....	60,076	61,374	69,677
Ducks.....do.....	83,118	77,169	85,564
Partridges.....pairs...	780,420	586,481	611,707
Pigeons.....do.....	82,106	68,284	107,563
Geese.....number...	17,907	21,113	36,241
Eggs.....dozens...	2,754,683	3,298,157	2,479,510

I have no returns of the consumption in the other cities of the country.

FANCY BREEDS.

I do not know that there are any kinds of domestic fowls or chickens which are bred merely for "fancy" purposes, though I suppose nearly all the imported or pure-blood birds are in one sense "fancy" fowls, for the reason that they are bred separate and kept separate. But in another sense they are all to be found in the markets along with the common fowls, and are used as food, even the diminutive Bantams being sacrificed in that way. Indeed, it is hardly necessary to say that, in a new, half-settled country like this, the principal purpose for which domestic fowls are kept is their flesh, their eggs, and their feathers.

ARTIFICIAL INCUBATION.

While artificial incubation is employed to some extent—indeed, in an experimental way—all of the varieties of fowls mentioned under "varieties" will sit upon and hatch out their eggs.

CLIMATE.

The extreme range of the thermometer being from 32° F. in winter to 100° in summer, there is hardly an interval in the year when full supplies of both eggs and chickens are not in the markets.

DEALERS AND EXPORTERS.

There are a number of establishments in this city in which are kept on sale all the different varieties of domestic fowls, ornamental birds, songsters, etc., and any orders or requests for supplies sent to this consulate would at once be turned over to them to be filled. Special arrangements, however, would have to be made for their shipment to the home port, since there is now no direct line of steamers between the two countries.

E. L. BAKER,

Consul.

BUENOS AYRES, *July 28, 1893.*

BRITISH GUIANA.

INTEREST IN FOWLS.

There is no special interest taken in fowls at this time, owing to the lack of facilities for importing game birds and the knowledge of where they can be obtained.

VARIETIES.

Those found here are of a mongrel type, the original varieties having been so mixed that no trace of them can now be seen. They are of various colors, but mostly white and black and spotted. They weigh from 1½ to 4½ pounds, live weight. When dressed for the table they are mostly bones, and if old the meat turns very dark when boiled. Spring chickens are unknown here, on account of their being almost devoid of flesh. The shape of the fowl is fairly good, and if properly cared for and fed it becomes well developed. Fowls are, however, allowed to run about the streets to feed, the majority of the owners being too poor to buy food; they therefore rarely get enough to eat. Few have good combs, and these are generally of a pale color. Crests are never seen. A few have feathers on their legs. The legs are generally long and of a yellow and black color. The skin is very smooth and of a light yellow to a dark-brown color.

BREEDING TRUE TO TYPE AND COLOR.

They do not breed true to type and color, because they are allowed to run at large and mix with other kinds. There are no pure races.

SITTERS AND NONSITTERS.

They are good sitters and extremely prolific as to eggs.

PURPOSE FOR WHICH FOWLS ARE KEPT.

They are principally kept for eggs, not being used for food until they have stopped laying.

FANCY BREEDS.

There are none bred as fancy fowls.

ARTIFICIAL INCUBATION.

Artificial incubation is not employed here for propagating fowls.

CLIMATE.

The climate is warm throughout the year, tempered with constant sea breezes. Rain is extremely plentiful.

ACKNOWLEDGMENT.

This consulate is indebted to the courtesy of Capt. E. T. White, of this city, for the data embraced in this report, with whom any person interested is respectfully recommended to communicate, as he has had much experience in the poultry line.

PHILIP CARROLL,

Consul.

DEMERARA, *July 8, 1893.*

BRAZIL.

Very little interest is taken in the importation or in the breeding of fowls in this district, and even this only by some amateurs. The varieties kept are the common fowls; and the imported Dorkings, Cochins, Plymouth Rocks, Black Spanish, Houdans, etc., soon degenerate to the common level. The climate is warm and humid and well adapted to fowl-raising. The temperature never falls below 63° and never rises above 95° in the shade during the year.

JAMES M. AYERS,

Consul.

PARA, *June 27, 1893.*

INTEREST IN FOWLS.

The answers herein to the questions submitted in the circular were obtained from certain parties who deal in fowls for the markets of Pernambuco and other cities of the country. Information could not be obtained from other sources, as practically there are no others who take any particular interest in fowls, except when they are prepared for the table.

Some interest is manifested in the breeding of fowls of the Indian variety, in order to train them for the cockpit; but even the fowls thus trained are somewhat mixed with other breeds, and in many cases but few of the char-

acteristics of the original breed remain. Practically no interest is manifested in the raising of pure breeds or fancy fowls for any other purpose.

VARIETIES.

There are five kinds of fowls, so far as can be ascertained, in this district—the native, the Indian, the Cochin China, the Brahma, and the Garnizé.

Native.—The native breed is multicolored as to feathers, but it may be said that the feathers are chiefly of a whitish color. It is of about medium size, about $2\frac{1}{2}$ spans in height, has a crest and comb of small size, and is smoothly feathered. This is regarded less valuable than the Indian breed, since it is weaker in its constitution and is not trained for fighting. The flesh of this fowl has good flavor, and the hens are better layers than those of the Indian variety. It is free from feathers on the legs. The color of skin, both of body and legs, is red shading to white.

Indian.—The Indian breed of fowl has also multicolored feathers (though very sparsely feathered) and is about 3 spans in height, but has no feathers on legs. The skin of the legs varies in color. It is found white, black, and yellow. The crest and comb also vary considerably in size in different fowls. This breed is chiefly used for the cockpit, but is also used for the table and for eggs. It is more valuable than the native fowl, on account of its superior size, strength, and pluck. The hen, however, lays fewer eggs than those of the other varieties—generally 8, 9, or 10 eggs to each sitting.

Cochin China.—This fowl is also of various colors. It is 3 spans in height, and is thickly feathered, even to the claws. Although large in size, they are of rather weak constitution. They are considerably prized, because they are not so common as the other varieties in this place. The color of the skin varies. They are used both for food and eggs, and are appreciated on account of their size.

Brahma.—This breed is also multicolored and is thickly feathered on both body and legs. The skin of body and legs is yellowish. It is prized chiefly for its size and appearance and for the purpose of crossing with other varieties of poultry.

Garnizé.—This fowl is supposed to have been brought originally from Angola, Portuguese Africa. It seems to have no special characteristics, except its small size. While the prevailing color of the feathers is white, it is found with multicolored feathers. In different fowls of this breed the skin has a variety of colors. They are prized as pets, on account of their pretty appearance and diminutive size. Some have feathers on legs and others have not. All have crest and comb.

BREEDS AND SITTERS.

None of the varieties found here breed true to type and color.

No attention is given to breeding; consequently there are no pure types. All are sitters.

PURPOSE FOR WHICH FOWLS ARE KEPT.

The mixed breeds that prevail here are kept principally for food and eggs. The Indian breed, as already mentioned, is kept for fighting purposes. The Garnizé, as already stated, is prized for its diminutive size and appearance and is kept more particularly as a domestic pet.

FANCY BREEDS AND ARTIFICIAL INCUBATION.

None are bred as fancy fowls.

Artificial incubation is not employed here.

CLIMATE.

The climate in the dry season, which usually prevails from November to April, is humid and hot; and in the wet season, which includes the months from April to November, it is still more humid, of course. In fact, during the months of June, July, and August it is very damp, but with a less degree of heat prevailing than in the months which cover the dry season. The average temperature for the wet season is 78° F. and for the dry season 82°.

DEALERS.

The house of Gomes Fernandes & Co. exports fowls to Para and Santos and purchase these fowls from parties in the interior, who bring them to the city for sale. It is to be presumed that any person wishing to purchase fowls in this consular district can be supplied under the proper conditions by this house.

DAVID N. BURKE,
Consul.

PERNAMBUCO, *August 28, 1893.*

As a rule, there is no special interest taken in the breeding of fowls in Rio Grande do Sul.

The varieties of domestic fowls kept are limited almost entirely to those of the gallinaceous species. Turkeys are occasionally reared, but their cost is too high for general consumption. Aquatic fowls, such as ducks and geese, attract little attention. As to the color and size of the cocks and hens, as far as I have noticed, dark feathers predominate, and the size would be considered in the United States below medium.

They are the common barnyard fowls, with combs, and sometimes crests, the latter being considered ornamental.

The color of legs and skin varies, but as a rule harmonizes with that of the plumage.

The only fowls bred as pure races are the game species for sporting purposes, as cockfighting is a favorite pastime here. Bantams and Shanghais are bred as curiosities.

As a rule, all are sitters, except the aquatic fowls, the eggs of which are commonly incubated by hens.

Fowls are reared principally for their eggs. The young males are eaten. The larger hens are sold by the breeders for consumption in the towns, as well as for the supply of the passenger steamers, which always lay in a stock when leaving.

In the camp beef is preferred to the flesh of any fowl or game.

Artificial incubation is not carried on here.

The climate is mild, although sometimes hot in summer and cold in winter. The thermometer ranges from 45° to 82°, according to season.

WM. A. PRELLER,
Vice-Consul.

RIO GRANDE DO SUL, *August 15, 1893.*

CHILE.

There is no poultry industry specially so called in southern Chile. There are no statistics, nor any means of ascertaining and giving a correct reply to the questions of the circular.

There is no artificial incubation employed in the fowl business here.

The climate is mild, no extremes of heat or cold, but during the winter months, or, say, June, July, and August, it is generally very rainy and disagreeable.

JNO. F. VAN INGEN,
Consul.

TALCAHUANO, *July 26, 1893.*

DUTCH GUIANA.

There is no special interest taken in fowls in this colony, and I can not learn that any are bred as pure breeds or fancy fowls.

Artificial incubation is not employed for propagating fowls here.

The only purpose for which fowls are kept is for food and eggs, regardless of strain.

None can be obtained for export, as there are not enough raised for home consumption.

The climate is very even, the thermometer averaging about 84°; but the humidity is very great, as all of the Guianas are low and nearly on a level with the sea along the coast, but back in the interior are mountains, some 2,000 feet or more in height.

H. LOVEJOY,
Vice-Consul.

PARAMARIBO, *July 7, 1893.*

HONDURAS.

FOWL INDUSTRY.

No special interest is taken in fowls in this consular district. Farmers keep a few dozen fowls for domestic purposes. Chickens about 6 months old sell for 6 reales (45 cents). Two eggs sell for 5 cents (American). These are town prices.

The fowls are the ordinary Spanish breed. They are small, brownish, of slender shape, with small comb, no feathers on the legs, dark slate legs, and white skin.

No variety breeds true to type and color, and no attention is paid thereto. There is no security for a pure race.

They are sitters, and are kept for eggs and food.

There are a few fancy fowls imported from the United States, and these are kept mostly for breeding fighting cocks.

No artificial incubation is employed.

CLIMATE.

The climate is tropical, with wet and dry season. The latter corresponds to winter and spring in the United States (December to May), and the rainy season extends from May to November. On the north coast of Honduras the wet season sets in later and lasts from October to March.

In Honduras all climates (but no snowstorms) can be found. In the lower and coast region the thermometer ranges from 68° to 72° F. in the shade; in the interior mountainous region in November, December, and January the temperature varies as follows: 50° to 60° at sunrise, 72° to 82° at 2 p. m., 60° to 70° at 10 p. m.; in March, April, and May, 66° to 74° at 6 a. m., 80° to 88° at 2 p. m., and 70° to 76° at 10 p. m. During the rainy season the temperature varies little. As an example, I give the temperature on the 1st of the present month (September): 6 a. m., 69°; 2 p. m., 78°; 10 p. m., 71° F. This is at Tegucigalpa, 3,300 feet above the sea. On the high mountains, 4,500 to 6,000 feet, there is congelation in the months of December and January.

GEO. BERNHARD,
Vice-Consul.

TEGUCIGALPA, *September 8, 1893.*

MEXICO.

No attention is given to fowls in this district, and the breeds found here are the common barnyard fowls. The climate is very hot and dry, and the fowls are infested with vermin, many chickens dying in consequence. Fancy

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fowls for cockfighting are imported from the United States, Alabama and Georgia birds being favorites. The white, black, and green legged birds are said to be the most pugnacious.

EUGENE O. FECHET,

Consul.

PIEDRAS NEGRAS, *June 21, 1893.*

PARAGUAY.

INTEREST IN FOWLS.

Fowls and poultry generally are kept for home consumption only, but steamers to and from Buenos Ayres, Montevideo, and Matto Grosso supply themselves for their short voyages of from six to ten days, this being the extent of the exportation trade up to the present date.

VARIETIES.

The prevailing race of poultry is the common barnyard fowl, but a cross between this and the Cochín China race is found in small numbers. Poultry vary in form, size, and color, the generality being red, gray, black, and intermediate shades. Fowls with feathers on the head or legs are scarce, comparatively, resulting from the cross of the Cochín China only. The legs are generally yellow or red. All the cocks have combs, and the hens usually have crests.

Besides the fowl mentioned, ducks, peacocks and hens, Guinea fowl, and geese are bred in small numbers. All these resemble the common American breeds, but from scarcity of ponds or lakes the geese and ducks do not produce so well as in Europe or America. The peafowls produce as many as 25 or 30 eggs to a sitting and are very delicate eating.

BREEDING TRUE AND SITTERS.

The white fowl, called in Paraguay "Paloma," is the only one that can be considered pure bred. These hens lay from 8 to 12 eggs to each sitting. The Paloma is the same size as the English Bantam breed. They are not, however, black, but pure white. These hens hatch well; but it is advisable to place only 8 eggs at a sitting, in order to be well covered. Hatching takes twenty-two days. The Paloma cock is excellent for breeding, and I have seen a very pretty race bred from the ordinary barnyard fowl and the Paloma cock. To produce this breed no other class of cock should be admitted to the poultry yard. There should be one cock to every five hens of pure or mixed race. The eggs of the ordinary breed are large sized, and those of the Paloma hen are oval and small. The barnyard hen gives from 10 to 14 eggs. The Paloma breed needs some care, as the chicks are delicate and easily killed.

The principal—indeed the only—purpose of keeping poultry is for eggs and flesh. Eggs are seldom or never exported.

The Paloma breed is the only fancy fowl raised.

Artificial incubation is almost unknown, only one person in Paraguay having made the experiment, and from want of knowledge of the subject he failed to obtain any pecuniary advantage.

CLIMATE.

The climate is warm and dry, but healthy, and compares very favorably with the southern portion of Queensland. The hottest months are November, December, and January, when the medium temperature is 92°, but has been known to rise as high as 105° in January and drop to 40° in July. The average for the winter months, May and June, is 50°. The temperature is influenced by the north and south winds; from the north heat and dryness, and from the south storms and cold weather. The temperature at 6 a. m. averages 78.7° in January and 59.7° in July; at 3 p. m. in January, 96.4°, and in July, 70°. The average number of wet days in the year is 79; cloudy, 72; clear, 214. (CONSULAR REPORTS No. 138, p. 559.)

EXPORTS.

Poultry farms, properly speaking, are unknown in Paraguay; but a competent person is about to establish one on a large scale in a place called Lambaré, situated on the Paraguay River one league from Asuncion, to be called the "Victoria Poultry and Dairy Farm," and I have no doubt that the farm will be a success.

EDMUND SHAW,
Consul.

ASUNCION, *August 5, 1893.*

PERU.

INTEREST IN FOWLS.

I have written to several consular agencies, and, from replies received and from my own knowledge of the subject, I should say that very little attention is paid to the raising of special breeds of fowls. The raising of fowls, I am informed, is attended with great difficulty in the warmer parts of Peru and especially along the coast, owing to the vermin. For this reason fowls of all kinds sell high. Since my arrival in this country in 1890 I have never known common chickens to sell for less than 75 cents in silver each, and now they are selling at from 80 cents to \$1.20 in silver each for the best. The best chickens here are about such as are sold throughout our Western States for from \$2.50 to \$3 per dozen.

VARIETIES.

The Cochin China and the fighting cock are about the only species that are carefully bred. The breeders of fighting cocks usually cross the native fighting cock with those imported from England, and in this way claim to produce the best fighting fowls. Cocking mains are held every Saturday, although the interest taken in this sport is not as general as in times past.

However, I am told that there is considerable interest taken by a certain class, and some fowls bring as high as \$50 and \$60 in silver each.

Fowls are kept for both food and eggs. Eggs are very high. The lowest price paid for them in the market by consumers since I came here was 60 cents per dozen, and they have been as high as \$1.20 per dozen. The poorer classes all endeavor to keep a few chickens, generally in coops on the roofs or in little *patios* or courts, and the eggs are sold to the neighbors who are better off almost as fast as they are laid. With this little income they buy meat and vegetables in small quantities. In fact, nearly every well-to-do family also keeps a few chickens on the roof of the house, some for laying exclusively and some to be fattened for the table. The chickens sold in the market are generally very poor.

ARTIFICIAL INCUBATION.

I am told that some years ago incubators were tried in the Tumbes district, but without success.

CLIMATE.

At Callao the range of the thermometer during the year is between 60° and 87° F. The cold months are June, July, and August. These are also the dampest months, and during this period there is the least sun, with cold, damp winds; but the winds are never strong enough to do damage.

DEALERS AND EXPORTERS.

Thomas Lawler, Callao, is an authority on fowls, but he does no shipping, so far as I can learn. He can obtain fowls, however, should they be wanted. I have seen nothing in the line of fowls of native breed purely, except, perhaps, the fighting cock, that is desirable.

A. J. DAUGHERTY,

Consul.

CALLAO, August 13, 1893.

SALVADOR.

INTEREST IN FOWLS.

No special interest in fowls is taken in Salvador, if fighting cocks be excepted.

VARIETIES.

The domestic fowls kept are common hens and roosters, Cochin Chinas, and miniature fowls. The common fowls are small, averaging 10 inches in height and 2 pounds in weight. They vary in color from the purest white to the deepest black, including nearly all the shades of the rainbow. There are no two alike. Some have combs and crests, others lack them entirely.

Some have feathers on legs, and others have none at all. The color of the skin and legs is white, black, or yellow.

BREEDING TRUE TO TYPE AND COLOR.

The only varieties which breed true to type and partly to color are the Cochin Chinas and miniatures. These are the only ones raised as pure breeds, although fanciers are quite careful in the rearing of fighting cocks from breeds called "English," "Chiriqui," and "Costa Rican." The roosters of these are in shape, size, and color as varied as the native breeds, and the only distinction consists in the smallness of the head, the short notes of the crow, fine shape, and comparative leanness of the legs.

SITTERS AND NONSITTERS.

Native fowls are all sitters, nonsitters being a very rare exception. Cochin Chinas and the elfish variety called miniature are not bred systematically on a business plan.

PURPOSE FOR WHICH FOWLS ARE KEPT.

Farmers know nothing whatever about keeping fowls for any given purpose—eggs or food. They are careless, and pay no attention to keeping particular varieties, the consequence being that the subdivision of the breeds grows daily more and more.

FANCY FOWLS.

The characteristics of the "fancy" fowls are as follows:

Cochin Chinas.—Heavy weight, large size, pure white color or mixed with black, feathers on legs, white skin and legs, small crests and combs.

Miniatures.—Small body, light weight, white or black color, feathers on legs, white skin and legs, large crests and combs.

ARTIFICIAL INCUBATION.

Artificial incubation is unknown in Salvador. The last Congress granted a patent to a native inventor of an artificial incubator. It is believed that the machine is based on the same principles that distinguish American incubators.

CLIMATE.

The climate of Salvador is warm (80° to 98° F.) on the coast and lowlands of the interior, mild (75° to 80° F.) on the plateaus between 1,500 and 2,000 feet above the level of the sea, and cool (65° to 75° F.) on the mountains above 2,000 feet high. The warmest weather is generally tempered by fresh land or sea breezes during the evening. The air very seldom gets warm or sultry, and there is always a great difference between the temperature in the shade and in the sun.

The rainy season begins in May and ends in October, and the dry season embraces the other six months of the year.

DEALERS AND EXPORTERS.

There is no person in the country who would undertake the exportation of fowls to the United States. Should an order come to this consulate everything possible would be done to ship home the number desired.

Besides common fowls, the other domestic birds kept in Salvador are ducks, turkeys, "pijijes" (*anas merjus*), bitterns, pigeons, peacocks, guinea fowls, and a few pheasants.

G. J. DAWSON,
Acting Consul.

SAN SALVADOR, June 30, 1893.

SPANISH WEST INDIES.

CUBA.

INTEREST IN FOWLS.

No interest whatever is taken in the breeding of fowls in this consular district. I can learn, after careful inquiry, of only a single attempt to introduce any of the fancy breeds, and that was made by an American citizen of this city (Matanzas), who imported breeds which he thought possibly adapted to this climate. It was a failure, owing chiefly to the fact that the fowls became diseased and died.

VARIETIES.

With the exception of the gamecock, which is bred to some extent for fighting purposes, no distinct breeds can be said to exist. The Cuban hen may be described as the ordinary barnyard fowl, similar to that of the United States, but smaller, weighing generally about $2\frac{1}{4}$ to $2\frac{1}{2}$ pounds. These hens are mostly a mixture of the old Spanish and Malay fowls, the latter breed being a little more persistent and showing itself in the darker color of the eggs. They are of all conceivable colors and mixtures of colors. They have degenerated by reason of general neglect. Usually they have combs and crests. The legs are of all colors and generally without feathers.

BREEDING TRUE TO TYPE AND COLOR.

There is no breeding true to type or color. There is not the least care for either on the part of those who raise them.

There are no pure races. A hen is a hen; the breeder never looks beyond that.

They are persistent sitters.

PURPOSE FOR WHICH FOWLS ARE KEPT.

They are kept both—and about equally—for eggs and food. In the latter case, they are marketed alive, invariably, and are brought to market and hawked through the streets, strung by the legs over the backs of mules or the shoulders of men or boys. They are never sold by weight.

It is generally accepted that the fowls of Cuba excel in flavor. The cause assigned is that they feed largely on cockroaches and other insects, and comparatively little upon grains and grasses. The superiority which is claimed for the Cuban hen in flavor is also claimed for the egg, I think also with a basis of truth. Though only about two-thirds as large as the eggs of the ordinary barnyard fowl of the United States they are of very fine flavor. Their use, as well as that of poultry, is very extensive in Cuba. They are sold uniformly at so many for the peso (the Spanish dollar, about 91 cents in American gold). The number given for a peso varies from 20 to 40.

FANCY FOWLS AND ARTIFICIAL INCUBATORS.

It may be said that there are no "fancy" fowls. The only exceptions are the fighting cock above named and a very limited breed of Bantams.

Artificial incubation has never been attempted. Cubans seem to think the old way is the best, and do not take to modern notions.

CLIMATE.

The climate is warm and moist and marvelously even. The extremes are 50° and 90°, and the monthly variation rarely so much as 15°. The low extreme of 50° is only reached in a very few mornings and in the interior. In this consulate, with doors wide open, I have never seen it below 60°, and as low as 60° only once. My predecessor, who was here six years, informed me that he never saw it below 62°, nor above 90°, though 91° or 92° is very rarely reported outside. The usual midday temperature in summer is about 86°; at night, about 78°. In winter it is usually about 75° to 80° at midday and 65° to 70° at night.

ELIAS H. CHENEY,

Consul.

MATANZAS, *September 27, 1893.*

URUGUAY.

No special interest is taken in the fowl industry in Uruguay.

Every variety is found. The Criolla, or native variety, for which there is a preference, is a result of mixing breeds of all kinds.

All poultry degenerates here and becomes in time Criolla. An effort is being made to keep as pure breeds the Catalanas, or Spanish, and the Brahmas.

Catalanas are nonsitters, the Brahmas sitters.

The Catalanas are kept for eggs, the Brahmas for food. The Criollas give good results for both purposes.

The Indianas—small, with large crest, and generally white color—are the only fancy fowls.

Artificial incubation has been tried, but in general given up, not proving satisfactory.

The climate in summer is not as hot as in our Middle States. In winter frost is of very rare occurrence. Comparatively severe cold storms occur, however.

Fowls can be obtained in Montevideo in large quantities for export. The price is 15 to 20 cents each. The firm of Camaño & Co. state that they can supply easily 10,000 to 20,000 per month.

FRANK D. HILL,
Consul.

MONTVIDEO, *September 14, 1893.*

VENEZUELA.

The poultry industry has never reached any great magnitude within this district (La Guayra), which is to me quite surprising, as the climate, the demand, and the price are all favorable.

The common domestic fowl in Venezuela is of a small, inferior type, and gives evidence of the fact that poultry-raising has had little attention. One may see a mixture of all types and colors in the common brood of chickens. They are usually small, but the meat is quite sweet and tender and has a game-like taste. These fowls are good layers, but not very good sitters, probably because no place is provided for them where they can hatch and raise their broods. In the cities and among the best farmers may be found Cochins, Plymouth Rocks, Brahmas, and other choice varieties, most all of which were brought from the United States. These varieties are good sitters when in Venezuela and increase rapidly. I note an amusing comment in a Venezuelan newspaper on the "Reputation and Behavior of American Fowls in Venezuela." After describing the fine lot of poultry which Señor B—— had brought from the United States, it says:

This fine American family of fowls are noted for their industry as well as their "sweetness" and beauty. Even the great cock, the head of this family, is an industrious toiler. He even helps to hatch the brood while the hens are out laying eggs. And after he becomes a father, with all his Yankee energy, he kicks dirt high in air in order that his family may obtain the necessities of life and with greater ease obtain the bugs which their appetites call for.

This shows that good varieties of fowls well cared for are good sitters and rapid producers of both eggs and meat.

Game fowls are exceedingly combative and are very popular, as cock-fighting ranks next to bullfighting among the amusements of the people. A gamecock is often valued as high as a horse. I saw one some days ago for which the owner asked \$300; it had won him much money. These gamecocks are usually small, mostly red, with black streaks; are very quick, and have large, sharp spurs. All fowls here are expensive. A common

fowl brings 80 cents to \$1 in market; large chickens are worth much more. Eggs never sell for less than 40 cents per dozen, and I have known eggs to sell in La Guayra for \$1.20; the common price is about 60 cents per dozen. Poultry-raising in La Guayra and its district might be made very profitable, but at present both fowls and eggs are too expensive to ship to the United States.

PHILIP C. HANNA,
Consul.

LA GUAYRA, *July 28, 1893.*

No attention whatever is paid to the breeding of fowls in the district of Maracaibo, and the same remark will apply practically to all Venezuela. Gen. Guzman Blanco and perhaps a half dozen other rich proprietors have at times introduced from abroad improved breeds of fowls, experimenting with them on their own estates; but beyond this, fowl culture, as understood elsewhere, has never been attempted.

Much interest is taken in cockfighting, and a game champion with a record always commands a good price, but small, however, in comparison with values in other localities where breeding is more carefully attended to. At Maracaibo it is doubtful whether more than \$80 has ever been paid for a gamecock. There is here, however, no special and separate breed of game chickens. Any chicken, whatever may be his ancestry, may turn out to be a fighter, and but little care is taken to secure purity of descent from birds of renown.

In many parts of South and Central America it is very different, and there a hen which is known to be the progenitress of fighting roosters is jealously guarded from the possibility of breeding with common stock.

At Maracaibo there are several cockpits, and on Sundays and feast days much money changes hands; but here the better classes do not seem to be so assiduous in their attendance as in many other places, although it is considered perfectly proper and in no way derogatory for a gentleman to be a frequenter of the cockpit. In the other two large cities of Venezuela—Caracas and Valencia—many persons of high social position are noted for their interest in the sport and their possession of “strings” (*cuerdas*) of famous fighters.

It is a fact perhaps not generally known that birds of certain species, apparently distinct from the domestic fowl, will produce a crossbreed with the latter. For example, we have in this country a bird called the “guacharaca,” resembling in color and shape the common thrush of the north, but with a long tail and as large as a small hen. It is easily domesticated, fraternizing with the fowls, which seem to consider it one of the family. The hens do not repel the advances of the male guacharaca, and the result is a hybrid breed, not particularly valuable as food, but most vicious and untiring fighters in the pit.

For many years past the improvement of the breeds of all classes of domestic animals has been a favorite theme with Venezuelan writers, and contracts even have been made at various times with the Government for the introduction of blooded stock of all descriptions.

There are few countries, if any, better adapted to this purpose than Venezuela. With the great range of temperature (according to elevation), the variety of productions, and the immense extension of unoccupied territory, an establishment devoted to breeding a high class of domestic animals would have every advantage. Serious drawbacks existing in other climates would be unknown, and beyond the first cost of introduction the expenses attendant upon the enterprise would be but trifling in comparison with those to be confronted in other countries.

With the exception of the few instances quoted, no interest has been taken in the matter, or at least no practical results have been obtained. On a model farm belonging to Gen. Guzman Blanco, near Caracas, there were—and, indeed, may be yet, unless scattered by the recent revolution—many specimens of fancy bulls and cows, horses, pigs, and, indeed, of all classes of stock, including many varieties of fowls. An isolated case of this description, however, has no effect upon the country at large; but it is hoped that as Venezuela recovers from the effects of the late war and completes the peaceful reorganization of her Government now in progress consideration may be given to this important subject, which would go far toward augmenting the wealth and prosperity of the Republic.

E. H. PLUMACHER,
Consul.

MARACAIBO, *June 24, 1893.*

ASIA.

BRITISH ASIA.

CEYLON.

No special interest is taken in fowls in Ceylon. Those kept are the common fowls—small, tough, and of all colors. They are all sitters, and are kept both for their eggs and flesh. No artificial incubation is employed. The climate is humid during six months and very humid during the other six.

WM. MOREY,
Consul.

COLOMBO, *July 7, 1893.*

INDIA.

In response to an application to the authorities, the reply was received that “the government of India have never had occasion to collect any information on the subject of the poultry industry in this country.” What little information may be contained in this report, therefore, has been procured with great difficulty exclusively from private sources.

INTEREST IN FOWLS.

It can be said in regard to almost all the provinces of India and Burma that no special interest is taken in fowls, nor are there any people who make the raising of poultry a regular business. A great many persons habitually keep and breed a few fowls and sell their produce, but such an establishment as a poultry farm, where breeding is carried on in a regular and systematic way, is unknown.

In the district of Chittagong, however, larger numbers of fowls are reared than elsewhere, and the trade in poultry and eggs is of considerable importance.

VARIETIES.

The common country fowl is an unattractive, undersized creature, varying indefinitely in color. The stranger is astonished in going through the markets of Calcutta, which have the reputation of being the best in India, at the sight of the wretched specimens of poultry offered for sale. So little attention is given to turkeys, ducks, geese, etc., that the statements in this article will be confined to the ordinary domestic or barnyard fowls.

In the district of Akyab they are of a dark color, almost wholly devoid of comb, without crest, and destitute of feathers on the legs. Though their bodies are small, their abnormally long legs give them the height of the common American fowl.

In the Chittagong district the fowls are pied in color; in size, large, perhaps the largest bred in any quantity in India; long in leg and large framed, combed, but with no feathers on crest or legs. Their legs and skin are usually yellow, though when the breed has been crossed with the wild jungle fowl, the legs are slate colored.

In the presidency of Madras the only distinct breed recognized is that of the game fowl, which is used exclusively for fighting purposes. The color of this variety is rich brown and red, mixed with black. The legs and neck are extremely long, and the former are quite free from feathers. These birds have combs and wattles, which are always removed from the male, being considered inconvenient.

In Burma the indigenous breed is a game bird, very like the Malay and about the form of the fowl above described as raised in Madras. These birds are of a great variety of colors, with pea combs, no crest, no feathers on legs, and might be described as very leggy. The cocks are generally bare on the breast and neck, with red-skinned legs, while the skin on the legs of the hens is yellow or white.

BREEDING TRUE TO TYPE AND COLOR.

The variety of game fowl above described, if procured from Burmese villages in outlying districts, usually breed true to type, while if obtained from other places it will not; nor can it under any circumstances be relied upon to breed true to color. In Madras, however, the game fowl is said to breed true to type and color if special pains are taken to keep it separate from other species.

SITTERS AND NONSITTERS.

The Burmese fowls are inveterate sitters, yet lay but few eggs, and these of a dark-red tint. In India the country hens are good sitters, which can not be said, however, of the game fowl.

PURPOSE FOR WHICH FOWLS ARE KEPT.

In Burma fowls are kept for food, but in India for food and for eggs.

FANCY FOWLS.

A few imported Cochins and Silkies are kept as fancy fowls by the Chinese residents in Burma, but even these are not bred with any care. A species of white and speckled Bantam fowl, coated and crested, is also to be found in the Mandalay district.

ARTIFICIAL INCUBATION.

Artificial incubation is not employed as a common method of propagating fowls in any part of India or Burma, but a few Chinese residents of the latter country hatch ducks' eggs in rice husk in a very primitive fashion. The husk is saturated with water and in fermenting generates a moist heat of about 100° F. Into a heap of this mixture the eggs are inserted, and, except that they are turned once a day, are left to take their chance.

CLIMATE.

It is impossible to give a succinct statement as to the character of the climate in India, as it varies so greatly in connection with elevation and proximity to the sea. At the hill stations the climate is practically temperate. In southern central India, on the various plateaus, ranging from 2,000 to 3,000 feet high, the mean temperature during the cool months is about 65°, and in the hot months about 75°, while on the plains beneath the mean temperature in cool weather is about 75° and in hot weather about 85°.

Of course, both on the plateaus and also on the plains the difference between day and night temperature is considerable. On the plateaus the day heat in the cool weather is about 70° to 75° and in the hot weather about 85°, while on the plains the day temperature in the cool weather ranges from 75° to 83° and in the hot weather from 88° to 98°. On the coast the climate is more equable, and there is much less difference between hot and cool weather temperature than at places some distance from the sea.

In Bengal, or northeastern India, the climate can be described as hot during the months of March to May, inclusive, as hot and rainy from June to October, and as cool from November to February.

At Darjeeling in May, 1891, the lowest reading of the thermometer was 46° and the highest 66°, and in December the lowest was 33° and the highest 57°.

During my sojourn in Calcutta the lowest reading in this city has been 45° and the highest 106°. In the valley of the Upper Ganges the atmosphere contains much less moisture than is to be found in the province of Bengal, and the mercury often rises 20° higher in hot weather.

In Burma heavy rains invariably fall during five months of the year, and throughout the remaining seven the heat is of a damp, oppressive nature.

DEALERS AND EXPORTERS.

The Burmese game fowl can be procured through Bullock Brothers, in Rangoon; the birds peculiar to Madras of Dymes & Co., of that city; and the more valuable fowls, in the export of which Chittagong is prominent, by applying to John Young, esq., of that city; while orders to Calcutta should be sent to the ornithologists, Rutledge & Co.

SAMUEL MERRILL,
Consul-General.

CALCUTTA, August 29, 1893.

STRAITS SETTLEMENTS.

INTEREST IN FOWLS.

Interest is taken in fowls in this consular district by Chinese and natives generally.

VARIETIES.

There are two varieties from China, one from the Chinese coast ports (Shanghai, Amoy, Fuchau, Swatow, Canton, and Hongkong), and the other from Hainan. Those from the Chinese coast ports are fine, large fowls, weighing, when caponized, 8 to 9½ pounds. The variety from Hainan are much smaller, but are prolific layers. The prevailing color of feathers of both varieties is light yellow. They have combs, and some have feathers on legs. The color of the skin and legs is yellow. I do not believe that any of the Chinese or native poultry-raisers could mention the port from which any of their fowls were imported originally.

The ordinary Malay fowl is not large, but is a handsome, game-looking bird, its original having been the indigenous wild jungle fowl. They are good layers. They have combs, but no crests. The color of the skin and legs of some is white, but some are found with both skin and legs quite black, and to these the natives attribute certain medicinal properties, and they are valued by them accordingly. It is my opinion that the latter variety has been mixed with a foreign breed.

Another fowl from Shanghai is very large and heavy, with feathers entirely black. They have combs, and their skin and legs are of a yellowish white. They are splendid-looking birds and good layers, laying very large eggs. People in the United States desirous of importing them should get them from Shanghai direct, whence they are all imported here. They are very dear.

The Cochín China variety is a long-legged, gaunt bird, with scanty red feathers and red skin and legs. They always have the appearance of being nearly plucked, and are not much inquired for. They are reported to be excellent layers.

Bantams come from Bangkok, and are pretty toy birds of different markings. They have combs; color of skin and legs, whitish yellow.

The Ayam Sutra ("fowls with silken feathers") come also from Bangkok; skin and legs, black; comb, dark red, almost black. They have feathers like silk, and of an almost pure white, giving the fowl a somewhat rumped appearance. They are reported to be good layers and sitters.

BREEDING TRUE TO TYPE AND COLOR.

These varieties breed true to type and color.

I have known but one man, during the eighteen years that I have been here, who bred fowls as pure races—a wealthy Chinaman, who followed

western civilization to a certain extent. To the best of my recollection, he had from twelve to twenty varieties from China, and also some varieties of ducks and pheasants. I do not know at the present time of anyone who breeds true races.

SITTERS AND NONSITTERS.

From all I can learn, they are more or less all so-called sitters.

PURPOSE FOR WHICH FOWLS ARE KEPT.

They are kept both for eggs and food, those of the large and plump varieties having the preference for food.

FANCY FOWLS AND ARTIFICIAL INCUBATION.

A few are bred as fancy fowls, such as the Shanghai, the Bantam, and the Ayam Sutra, already described.

Artificial incubation is never employed as a common method of propagating fowls.

CLIMATE.

The climate is hot and moist. The average heat for the year, day and night, is fully 82° F. in the shade. It does not rain often from January till April. In April and May showers are not infrequent; after that it rains often, and, at times, very hard.

DEALERS AND EXPORTERS.

Fowls can be obtained here from traders and dealers. Understanding this place as I do, I think that were I in the United States, not having any acquaintances here, I should apply to importers of Straits produce in New York and Boston and tell them the kinds of fowls I should like to have them import from Singapore. I would recommend that the fowls, after purchase, be forwarded in spacious, airy cages on direct steamers from Singapore to New York, in the care of the captain.

I would not recommend anyone to import Chinese fowls from Singapore, but from the Chinese ports direct, by Pacific Mail steamers.

I can not recommend the introduction into the United States of Malay fowls or fowls bred within 15° latitude north or south from here, except for the extreme Southern States, as they would not be able to stand our northern winters.

A. G. STUDER,
Consul.

SINGAPORE, *August 21, 1893.*

CHINA.

INTEREST IN THE INDUSTRY.

This consular jurisdiction comprises two-thirds of the province of Fokien and all of the large island province of Formosa. Its combined population at present is estimated to be as large as that of France—say nearly 40,000,000. The quantity of food consumed every day is obviously enormous. The question is, how do fowls or chickens, as food, stand in comparison with the other articles of diet? It is well known that rice takes the lead, that vegetables come next, fish and pork third, beef and mutton fourth, and fowls or chickens perhaps the very last. The poorer classes can not afford this luxury oftener than perhaps four or five times a year, *i. e.*, on New Year's and other festival days and on occasions of entertaining visitors, when this dish is brought out among many other costly delicacies. The well-to-do take it sparingly, but the rich and official classes always have it on their tables. Estimating one-half of 1 per cent of the population to be of the rich and official class, the consumption of fowls and chickens in comparison with other articles of food would be imperceptibly small; but the enormous population will greatly increase the percentage. Therefore, poultry-raising is as important an industry to the people in this consular district as is the breeding of cattle. It is a very remunerative occupation, and in China, as in many other countries, the women are more interested than the men in the breeding of fowls.

In the suburbs of every city and in the towns and villages in the country a poultry yard containing a dozen or two fowls is invariably found attached to every house, and even among the boat population a hencoop is swung to the stern of every boat and sea-going junk.

On land, where this bird can find extensive fields and spacious yards, it is fed only twice a day with rice or millet; but in the cities and on board of vessels, where there is no such freedom given to it, it has to be fed oftener, and supplied with sand once in three days, to enable it to retain its digestive power.

VARIETIES.

There is no special or remarkable feature in the Amoy fowls. They are very much smaller than those found in Formosa, the latter resembling the favorite birds of Shanghai, being large, stalwart, graceful, and beautiful in plumage. The varieties found in Amoy are numerous, but most of them are of mixed breeds. The only distinct race is the pure white feathered birds called by the Chinese "Chü Se Chi." It has dark flesh and a white skin. The meat is considered to be more delicate and tender than that of other fowls. Their combs are short and burnt of a crimson color.

With the exception of those roosters which are preserved for breeding purposes, all the male birds are castrated when 4 or 5 weeks old. The capons are as small as the hens and are of assorted colors. The hens are

almost invariably of a light-yellowish color, dotted with dark spots. Among these there are found birds entirely black, but without any other remarkable feature. The most notable feature of the rooster is its size, being a tall, healthy, and beautifully feathered bird, with bright-red and dark-green plumage. Its tail is long, handsome, and of a lustrous dark-green color. This remarkable plumage is seen only on roosters, not on capons or hens. The natural feathers of the capons and hens may have been clipped by the owners for the purpose of recognition, so that their ownership could be easily distinguished, for one's fowls are let loose in the open yards and streets, during the day mixed up with those of the neighbors, and at sunset the owners have only to call their respective flocks from their own houses. It is a wonderful fact that the flocks will separate at the owner's call, each returning to its own coop without causing any inconvenience.

The Pescadore islanders are famous chicken-breeders. This is due in a great measure to natural circumstances favorable to fowl-raising. Eggs and fowls are exported to the mainland and to Formosa by the million every year. The Pescadore egg will fetch only one-third of a cent in Amoy, whereas the native egg costs from 1 to 1½ cents. The difference in price is ascribed to the difference in quality, for the latter is rich and highly flavored: the former is like an artificial egg—coarse and tasteless.

The Tamsui fowl is a notable bird—of majestic size, strong, healthy, and graceful in appearance. Its plumage is of a golden yellow intermixed with red and dark, shining green. The breast is always of a yellowish ground, and its wings are pleasingly variegated with three or four different brilliant colors. Its neck is long and is clothed with soft-colored, long feathers. Its comb, rising from 1 to 1½ inches high, and running from its peak to the back of its head, appears like a bunch of carmine cauliflowers. Its wattles hang gracefully down like a collar protecting the throat. It commands a high price in Amoy, costing from 75 cents to \$1, according to size. It weighs from 9 to 10 pounds.

BREEDING TRUE TO TYPE AND RACE.

The natives pay no attention whatever to the art of breeding. No distinct breed can be found among them. When a hen begins to lay eggs, a nest is prepared for her at the most convenient place. If the eggs are not taken away she will sit when the number has reached about a dozen or a few more.

FANCY FOWLS.

There are a few fancy fowls bred for fighting purposes. This is an art known only to the breeders. Their peculiar characteristic is their extraordinary fighting propensity. Whenever two of them are placed together they will fight to the end. They are large, strongly built birds, special attention to size and strength being given in their breeding, rearing, and training; but they possess no other outward peculiarities than those of the ordinary fowls. Cockfighting is prohibited by law, and this breed is not found in large numbers.

ARTIFICIAL INCUBATION.

Artificial incubation is employed by those who furnish the markets with cheap fowls. The process is very simple. The eggs being put in a bamboo basket or brooder, are covered with a layer of slightly heated wheat and placed over a slow fire. There is a great deal in the preparation of this fire, which forms the most important part of the entire operation. It is built of charcoal and left to burn until it has attained the appearance of a perfect pile of embers. Over these embers ashes are sprinkled evenly for the purpose of equalizing the heat, and some one is placed above it to see that the temperature is not higher than 100° to 104° F. The basket of eggs is then placed about a foot above the ashes. The wheat is used to retain the heat and is removed once in two or three days to allow the eggs to be cooled down for one or two hours, when the heated wheat is used again and the basket is replaced above the furnace. This process is continued several times, until the eggs begin to prick, when it is necessary for a part of the wheat to be removed that the chicks may have more ventilation and plenty of room to move about when they get out of the shells.

The average time for this artificial hatching is about fifteen or eighteen days. The hatching basket is used also as a brooder during the first four or five days after hatching, but after this the chicks are let loose to run about in the yards. The chicks are fed with raw pulverized rice of the size of a pin's head during the first three or four days; and after this the ordinary rice with the husk removed is thrown to them.

In artificial hatching the operator must learn the art by experience, so that he may be able to adjust the brooder to the furnace and see that the temperature does not fall below 100° nor rise above 102° F. Any irregularities are fatal to the germinating elements.

CLIMATE.

Amoy has a very mild climate. The snow which fell in January, 1893, was the first snowfall in sixty or seventy years, and was marked down as an extraordinary event in the history of the city. The summer has all the characteristics of the tropics, the thermometer running up as high as 100° to 102° at noon in the shade during the hottest days in August. Autumn has the easterly monsoon blowing incessantly during the entire months of September and October, occasionally accompanied by heavy rains; it is called the "rainy season." Spring is the best part of the year, when every plant blooms and the bright, sunny days are cool and refreshed with showers. The annual typhoons come in the month of July, when ships are wrecked, houses blown away, and villages flooded.

EXPORTERS AND DEALERS.

It would be difficult to export Amoy fowls to the United States, there being no direct steam communication. Besides, the poultry raised is barely

enough to supply the home demands. In fact, fowls and eggs have to be imported into Amoy from the Pescadores and Formosa, for the supply brought from the interior often falls short of the requirements.

T. C. CHUNG,*

Interpreter and Clerk.

Amoy, September 7, 1893.

INTEREST IN FOWLS.

The breeding and rearing of fowls is an important industry in China, as they form a very considerable portion of the daily food of the better class of the people; but no systematic breeding, as we understand it, is undertaken, except artificial incubation, and the fowls are not generally fed on any special varieties of food, but left for the most part to their own devices, having to pick up their food as they can find it in the fields.

VARIETIES AND CHARACTERISTICS.

The varieties are few in number. The principal ones are:

The Yangchow fowl, a large and fleshy bird of good flavor. It weighs from 4 to 6 pounds. The hen is brownish yellow on the back, darker on the wings and tail feathers, and light buff on the breast and belly; the legs are slate colored and sometimes feathered to the toes. It has a slight comb, and is a hardy bird. The hens only of this breed have feathered crests. The cock bird is larger, with stately carriage and handsome plumage—chestnut, golden feathers on neck and back, blackish on wings and body, tail blue; black comb, well developed; side wattles almost absent; average weight, 6 pounds. This variety is a good layer and sitter, the eggs being of a brownish tinge and of good size. It lays during eight or nine months of the year about 200 eggs, ceasing only in the hot summer months. It is not a pure breed, being mixed with the white and black kinds; but it breeds fairly true, the young broods usually reverting to the brown and yellow type. The market price is about 8 cents per pound. This chicken is kept more for the table than for laying purposes, as its flesh is particularly good.

The Langshan fowl is a distinct and fairly pure breed from the Yangtze River region, just below Chin-Kiang. It is a large, heavy, handsome bird, usually black or slightly tinged on the neck with brown; weight, 7 and 8 pounds; legs slate colored and frequently feathered. They are very good layers and sitters. The eggs are darkish brown and of good size. The

*In transmitting this report Dr. Grunenwald, acting consul at Amoy, writes as follows: "In forwarding this report I may say that, being unable to secure all the facts myself, I asked Mr. Chung to prepare it, knowing that he possessed a good knowledge of the people and had access to all subjects."

hens are good mothers. The cock stands over 2 feet in height. There is a well-developed comb on the cock and hen.

The Black Bone, or Typhoon chicken, is a distinct fancy breed. From the turned back, curved, and disheveled condition of its feathers, it has the appearance of having weathered a fierce storm with its back to the wind; hence its name. In color it is generally pure white. Its skin, legs, bones, flesh, and comb are very dark, almost black. It has bright green eyes and a white crest. The flesh of this fowl is much esteemed. Boiled down into soup it is prescribed by native physicians for certain diseases. The hen is not a good layer, laying usually but few eggs, but is a good sitter and mother. They are smaller than the other breeds, weighing 2 and 3 pounds. They are kept apart from other fowls and breed true to type, color, etc.

The Chow is another variety. This breed is small, weighing generally from 2 to 3 pounds. The cock is usually red, with single comb and without crest. The hen is yellowish-red in color. Both have short, yellow legs, without feathers. In shape they are round and plump and about 10 inches in height. Their necks are short and the flesh very white. The hen lays about 150 eggs, and is considered a good sitter. They breed fairly true to type. The price of eggs in the markets is about 6 cents per dozen. The dozen, however, is always the number 10. A pure white cock of this breed is always carried on the coffin at a native funeral cortege and is sacrificed at the grave. Also, on native boats a cock bird is killed on the Chinese New Year's day and the blood sprinkled over the bow to propitiate evil spirits and to insure good luck during the year.

The large fowl commonly known in America as the Shanghai chicken is not a native of China, nor is it to any extent reared in China. It is a Cochin China fowl, an Indian race.

Capons are prepared in this part of China without any difficulty or loss whatever. Not much art or attention is required to make them. A transverse incision about an inch and a quarter long is made in the lower part of the belly; the forefingers are introduced to take out the parts which are to be removed, with the aid of a pair of scissors to cut the cord without injuring the intestines. The wound is then stitched up and rubbed with oil, and in three or four days the patient is quite well. It must, however, be cooped during convalescence in a cool place lest inflammation should arise. When they have undergone the simple operation they acquire considerably more flesh and weight and a very fine flavor.

Ducks are reared in great quantities and are largely used as food, both fresh and salted. There do not appear to be any marked varieties. They are all artificially hatched, as the duck is an uncertain sitter. The common duck is a good-sized bird, weighing when dressed for the table 3 or 4 pounds, and is much esteemed for the excellence of its flavor. The plumage is very much like that of the common wild duck, so much so as to be frequently mistaken for the wild species. The drakes are not always distinguishable, but some are found of very handsome plumage, closely resembling the wild

Mallard. A few are wholly black or wholly white. They are good layers. After fledging they are driven about in vast flocks through canals and from pond to pond, where they find their food. They are brought under strict discipline and obey the call of their keepers with extraordinary intelligence.

The Mandarin duck is smaller than the common duck, and is a beautiful bird, with diversified and brilliant plumage, rivaling the humming bird and the parrot. It is reared chiefly for its beauty. In the grounds of the wealthy there is always an artificial lake, where the Mandarin duck is kept. They are considered as emblems of conjugal fidelity, and a pair of them usually form a part of wedding processions. Preserved duck eggs are considered a delicacy, and always form an important part of the *hors d'œuvres* of a mandarin dinner. The process of preserving them is as follows: A lye of bean stalk and lime is made by burning these to powder. This is put in water, black tea leaves and salt in certain proportions being added. The boiling is continued until all the water has evaporated and the residue becomes caked and hard. This is pounded fine and the fresh eggs are placed therein one by one with a little rice husk. They remain in this preparation one hundred days, when they are ready for use. They will keep several years. When ready for use they have the appearance and consistence of hard-boiled eggs. The shell is taken off and they are put on the table cut into small slices and eaten as *hors d'œuvres*. From experience I can testify that they are very good. Fresh duck eggs cost about 10 cents per dozen, preserved eggs about 20 cents per dozen. There is a Chinese legend giving the origin of preserved duck eggs. A very filial son at Chang-chow was going home to see his parents. Among his luggage there were some fresh duck eggs. He took passage on board a junk that had a cargo of lime, and in this lime he put his eggs. When near his home he learned that his father was very ill. Without taking his luggage he left the boat forthwith for his home. His eggs were left in the lime, and at the end of three months when the junk returned they were handed to him. To his surprise they were found to be perfectly preserved.

The goose is generally of pure white plumage, very striking in appearance, of great size and majestic carriage, much resembling the swan. They are very hardy and require little attention. The legs are of a reddish or deep flesh color. They are prolific layers in the spring and autumn and steady sitters, the natural period being thirty-one days. They have a horny, orange-colored tubercle at the base of the bill, which is also orange. They are vigilant birds, have a deep and sonorous voice, and will run at the heels of a stranger. The goslings attain a very early maturity. A gander weighs 10 pounds and the female 7 pounds. The market price is about \$1 per pair for well-grown young ones.

The turkey has long been introduced into China and is reared at Canton and Tien-Tsin altogether for the foreign markets, that is, for the foreigners at the treaty ports. The Chinese have not learned to appreciate this noble bird and do not care for it as a table luxury.

The peacock is reared in many parts of China and has been long known to the people, though it is not a native of the country. Its tail feathers are used by the mandarins in their caps to designate official rank.

The gold and silver pheasants of China may be called domesticated birds, as they are now so extensively reared that it is doubtful if they are found wild, though occasionally they still frequent the woods of some of the central provinces. Some of these birds are magnificent in their plumage, and their tail feathers are often 6 and 7 feet long, though commonly not over 3 feet. They are barred with alternate white and yellowish bands.

There is a bird in China—the cormorant—a genus of web-footed sea bird, of the family *Pelecanida*, often called “sea raven,” larger than the common duck, which is domesticated, trained to wonderful intelligence, and employed in catching fish. They are reared and trained with great care. A pair costs from \$5 to \$6. They are taken out on the lakes and rivers in a small boat, one man to ten or twelve cormorants. The birds stand perched on the sides of the boat, and at a word from the man they scatter on the water and begin to look for fish. They have a beautiful sea-green eye, and, quick as lightning, they see and dive for the fish, which, once caught in the sharp, notched bill of the bird, never by any possibility can escape. They then rise to the surface with the fish in their bills and are called back to the boat by the fisherman. As docile as dogs, they swim to their master and are taken into the boat, lay down their prey, and again resume their labor. When one of the cormorants gets hold of a fish too large for him to handle some of the others, quick to see his dilemma, hasten to his assistance and with their united efforts capture the fish and haul him off to the boat. If a bird seems lazy or playful and is not attentive to business, the Chinaman, with a long bamboo, strikes the water in the direction of the bird and calls out to him in an angry tone, when he immediately gives up his play and resumes his labor. A small string or rubber ring is put round the neck of the bird, which prevents him from swallowing the fish.

ARTIFICIAL INCUBATION.

The use of incubators in hatching eggs has been known and practiced in the country for several hundred years. It is, in fact, a large and profitable industry; but, like everything of the kind in the country, the hatching apparatus is primitive.

The hatching house is usually a long shed built of bamboo, the walls plastered with mud and thickly thatched with straw. Along the ends and down one side of the building are a number of round straw baskets plastered with mud to prevent them from taking fire. A tile forms the bottom of each basket. Upon this the heat acts, a small fireplace being below each basket. Upon the top of the basket there is a straw cover, which fits closely and is kept shut during the process. In the center of the shed is a number of large shelves placed one above another, upon which the eggs are laid at a certain stage of the process. When the eggs are brought they are put into

the baskets, the fire is lighted beneath them, and a uniform heat kept up, ranging from 95° to 102° F.; but this is always regulated by the feelings of the Chinaman, who is skilled in the matter. In four or five days after the eggs have been subjected to this temperature they are taken carefully out one by one to a door, in which are a number of holes nearly the size of the eggs. They are held against these holes, and the attendants looking through them are able to tell whether they are good or not. If good, they are taken back and replaced in their former receptacles; if bad, they are, of course, excluded. In nine or ten days after this, that is, about fourteen days from the commencement, the eggs are taken from the baskets and spread out on the shelves. Here no fire heat is applied, but they are covered over with cotton and a kind of blanket, under which they remain about fourteen days more, when the young chickens break their shells and come forth. These shelves are large and capable of holding many thousands of eggs. The natives engaged in this business know exactly the day when the young chickens or ducks, as the case may be, will come forth, and are ready for their removal. They are generally sold in two or three days after they are hatched.

CLIMATE.

The climate of this district is a healthful one and the skies at all times are particularly bright. The winters are short, beginning in December and ending in February, with little ice or snow. The summers are consequently long, and in the months of June, July, and August very hot, the thermometer ranging in the nineties. The rainfall is moderate.

DEALERS.

Should there be any orders or inquiries relating to this subject, it is perhaps best that they be addressed to the consulate, where they will receive proper direction and attention.

A. C. JONES,
Consul.

CHIN-KIANG, *August 17, 1893.*

All country people here raise some chickens. The number raised depends on the amount of ground owned or occupied by the farmer or villager. Young chickens a few days old are bought in large numbers and raised for the market.

The variety is what we would style in the United States common barn-yard fowls. They are of all colors, rather small, with feathers on legs in many cases. The legs are black, dark blue, and yellow, and the skin is usually white, though occasionally dark blue.

They do not breed true to type or color.

None are bred as true breeds.

They are all sitters.

They are raised both for eggs and food, as both fowls and eggs are largely consumed by all classes.

None are bred and raised as fancy fowls.

Artificial incubation is very largely used. Large numbers are hatched in villages in this way and sold at about 1 cent each when a few days old.

The climate of this district is a hot, long summer and a moderately cold winter, both fairly dry.

Fowls can be obtained in the general market at Hankow at any season of the year.

HENRY W. ANDREWS,
Consul.

HANKOW, *July 13, 1893.*

No special interest is taken in fowls in the consular district of Shanghai.

The varieties generally raised and kept are the Langshan black fowl, Cochín China, yellow fowl, and the ordinary barnyard fowl. Crests are to be found in the first two varieties, which are good-sized birds, the males averaging from 8 to 10 pounds each, the hens reaching from 4 to 6 pounds. These birds are good layers and prolific breeders. Both varieties have feathers on the legs, those of the Langshans being higher up than the Cochíns. In the former the legs are a dark brown, those of the latter a dirty yellow.

Both Langshans and Cochíns breed true, but are very frequently crossed.

As to whether these fowls are bred pure, I can not say positively, but think the Langshans are in some cases.

They are all sitters.

The principal purpose for which each variety is kept is for the eggs.

None are bred as "fancy" fowls.

Artificial incubation is employed as a common method of propagating fowls.

The character of the climate in this consular district is as follows: Extreme heat during June, July, August, and September; cold, windy, and damp during the winter and at other times fair; but always a tendency to dampness.

Fowls can be obtained in this consular district for export to the United States from Mr. S. R. Gale, No. 17 Canton Road, Shanghai. They could be shipped on steamers from here to New York. I am told that they are hardy birds and stand the journey well.

W. S. EMENS,
Vice-Consul-General.

SHANGHAI, *July 12, 1893.*

JAPAN.

So far as I have been able to ascertain, there are no published works in this country on the subject of native poultry.

While from time immemorial the Japanese have raised poultry of various descriptions, no special interest is taken in the industry, and the chief object has been to get the eggs.

The varieties are nearly all mongrels and of very inferior quality.

What good poultry there is has been imported from foreign countries, and little pains are taken to perpetuate the purity of the breed, with the exception of fancy and fighting chickens.

The fighting chicken is prized very highly, but, owing to the stringent laws against cockfighting, their breeding is surrounded by dense secrecy. I have been unable to secure a description of them.

There are two varieties of fancy chickens, one of the Bantam species, with enormous combs falling over to the tip of the beak and gills reaching to the ground, while the distinguishing characteristic of the other is the length of the tail feathers, in some cases from 15 to 18 feet long. Both varieties of these fowls are very scarce.

W. D. TILLOTSON,
Consul-General.

KANAGAWA, *September 4, 1893.*

INTEREST IN THE INDUSTRY.

Numerous persons in the Hiogo prefecture have been engaged from a remote period in the rearing of fowls. Most of the farmers derive considerable income from the industry.

VARIETIES.

The varieties of the native breeds are Kukin, Chabo, Ainoko, Jisuri, Jitori, and Nanking.

Kukin.—A pure breed of this variety is very scarce in this district. The size is large, the male weighing from $7\frac{1}{2}$ to 10 pounds and the female 6 pounds. The feathers are black and white; comb, flat and serrated; legs, large and yellow, with feathers near the feet and toes. The best of them lay 200 eggs per year, commencing when about 8 months old. They are not esteemed particularly desirable for food.

Chabo.—This is a Bantam variety; color, black; comb, serrated; ears, large; weight, $2\frac{1}{2}$ to 3 pounds.

Ainoko.—This is a variety that has become mixed with Malay and other Asiatic fowls; color, black; comb, walnut shaped; ears, small; weight, $5\frac{1}{2}$ to 10 pounds.

Jitori.—A Bantam variety; color, black; comb, serrated; ears, medium; weight, from 3 to 5½ pounds.

Jisuri.—Small size, with legs so short as to appear to be without legs; weight, both male and female, not exceeding 1¼ to 1¾ pounds; color of eyes, orange and yellowish red; feathers, generally black, but some of them white, with black tail.

Nanking.—A mixed breed of Kukin and other native fowls; weight of male, from 5 to 6½ pounds; female, from 3¾ to 5 pounds; eyes, large; ears, small; beak, very short; color, bronze or dull black. There are two shapes of comb—one flat and serrated and the other stubby and knobby. The fowls having the flat and serrated comb have longer feathers, are of lighter weight, and are superior as layers and for the delicacy of their flesh. They have short tails of a dark and glossy color; legs square shaped and yellowish in color. Some have feathers on legs, others have none. The former are considered best. The color of the skin is light reddish. The eggs weigh 1¼ to 2 ounces, each fowl laying from 120 to 200 eggs a year.

During late years foreign fowls have been introduced, and the number of persons rearing them is increasing from year to year.

BREEDING TRUE TO TYPE AND RACE.

The varieties that breed true to type and color are the Leghorn and Hamburg.

Those bred as pure races are the Jitori and Chabo of the native varieties and the Leghorn, Hamburg, and Plymouth Rock of the foreign.

All are sitters.

PURPOSE FOR WHICH FOWLS ARE KEPT.

The principal purpose for which fowls are reared in this district is, in case of the foreign varieties for eggs, and of the native for food.

FANCY FOWLS.

Chabo and Jisuri are kept as fancy fowls and are described as above.

ARTIFICIAL INCUBATION.

Artificial incubation is not employed as a common method of propagation.

CLIMATE.

The climate in this section of Japan is 97° F. maximum and 25° F. minimum.

BREEDERS AND EXPORTERS.

Fowls may be obtained at Hiogo and Osaka, but there are no persons engaged in exporting them.

E. J. SMITHERS,

Consul.

HIOGO, September 29, 1893.

KOREA.

No special interest is taken in fowls in Korea.

The varieties kept are chickens, geese, and ducks. All resemble our ordinary barnyard fowls, except that the geese of Chinese origin have upon the head, just above the bill, a large yellow knob or comb. They are kept both for eggs and food purposes, and all are sitters.

Great variations in temperature mark the climate of Korea—extreme cold in winter and extreme heat in summer. During the summer months, for periods extending over several days, the temperature ranges from 96° to 100° F. in the shade. The winters are severe, the mercury being often at zero. The rainy season extends from the middle of July to the middle of August. Spring and autumn are very pleasant, quite like those seasons in our Northern States.

JOSEPH R. HEROD,
Chargé d'Affaires ad interim.

SEOUL, July 20, 1893.

NETHERLANDS INDIA.

INTEREST IN FOWLS.

There is but little interest taken in fowls in Java, and that little only among the Chinese and Javanese, the European population taking no interest whatever in the industry.

VARIETIES.

The Cochin China is imported into Java and kept for breeding purposes. The finest of this breed are black, with large, very red combs, feathers on legs, and from 10 to 12 inches high. The other breed of Cochin China fowls is yellow, but in other respects the same as the black fowl, though somewhat smaller; the legs are of the same color as the fowls, and the skin is white.

Bantam fowls are very small, not more than 6 or 7 inches high, and of different colors, although the common color is white. They have very red combs; the legs are generally black, and feathered; and the skin is white.

There is another breed of fowls highly prized among the Javanese called "Devil fowl." They are black, with feathers growing the wrong way; almost black comb; black legs and skin. Although highly prized by the Javanese, they are never used as food.

The common Java fowls vary in color and size, but are generally small and used only for food; legs yellow and skin white.

BREEDING TRUE TO TYPE AND COLOR.

The Cochin Chinas and Bantams breed true to type and color and are the only fowls that do so. They are kept for breeding only, and are in most cases bred as pure races.

PURPOSE FOR WHICH FOWLS ARE KEPT.

Nearly all fowls in Java are sitters and lay well. Cochin Chinas and Bantams are kept only for breeding purposes and are considered "fancy fowls," while the larger common fowls are kept for laying purposes and the smaller ones for food.

ARTIFICIAL INCUBATION AND CLIMATE.

Artificial incubation as a method of propagating fowls is unknown in Java.

The climate of Java on the seacoast is dry and hot during the day, with temperature 85° to 90°, and chilly and damp at night, with temperature about 80° during the east monsoon or winter months—April to October. During the summer months, from October to April, the temperature is from 80° to 85° during the day and night and very damp, owing to continuous heavy rains.

DEALERS AND EXPORTERS.

The different breeds of fowls mentioned can be obtained at Batavia from native dealers, but fowls are exported from Java only to the other islands of the Dutch East Indies.

B. S. RAIRDEN,
Consul.

BATAVIA, *August 18, 1893.*

PERSIA.

INTEREST IN FOWLS.

No particular interest is taken in Persia in fowls, except to keep them up to the proper condition for laying eggs and hatching chickens.

VARIETIES.

The ordinary domestic fowls in Persia are very much like those in the United States, except that they may be a little smaller. In color there is great variety—gray, brown, black, white, dark and light speckled, golden, and dusky, with a dash of gold on the wing feathers. All possess a comb, and many a crest, and a considerable number have feathers on their legs. Whether the comb is double or single, or the fowl has a crest on its head or feathers on its legs, depends upon the different kinds in the poultry yard and is by no means the result of design on the part of the owner. Persian fowls are short from the beak to the tail, and, if well kept, are rather plump. The

legs are gray, and the skin, when dressed for cooking, is, on the whole, fairly white. Persian fowls, as a general rule, lay well, and their eggs are of medium size.

BREEDING TRUE TO TYPE.

I have reason to believe that those varieties which are distinguished by size, color, comb, crest, or feathered legs would, if isolated, breed true to type in the second or third generation.

PURE BREEDS.

Only one type, so far as I am informed, is bred pure, and this rather for the cockpit than the kitchen, although fowls of this kind are by no means bred for sporting purposes alone. They are the largest of all domestic fowls in Persia, and resemble to a great extent the Cochín China variety. They have long legs—a little disproportionately so—and when the bird is full grown it stands as high as a medium-sized turkey. They are usually of a pale-red color, with clean legs and a rather small comb. This variety is called “Hâri,” probably from its native district—the province of Hâristan, in southern Persia.

SITTERS AND NONSITTERS.

Persian fowls are all sitters.

PURPOSE FOR WHICH FOWLS ARE KEPT.

The object of Persian poultry-keepers is to get as many eggs from the fowls, for the purposes of sale and hatching, as possible; and when the fowls cease laying and show a disposition to sit, they are sold off, except such as have proved themselves to be good sitters and careful mothers.

FANCY BREEDS.

I have not seen or heard of any “fancy” fowls in Persia, except the “Hâris.” Game fowls and Bantams do not exist here, as a rule.

ARTIFICIAL INCUBATION.

Artificial incubation is not employed in Persia for the propagation of fowls. If it were introduced, it would probably be looked upon as a device of the evil one.

CLIMATE.

The climate in the neighborhood of Teheran is generally dry. Very little rain falls from the middle of May until the middle of December. The average temperature during this period is about 75° F. From the middle of December until the middle of February a moderate quantity of snow and rain falls; but after that time, and until the middle of May, the weather varies very much. In some seasons there is a great deal of rain, while in others the quantity is small. The temperature also varies very considerably.

In some winters the most intense cold prevails, while others are comparatively mild and open. The summers are very hot, with a dry, withering heat.

DEALERS AND EXPORTERS.

It would be next to impossible to export fowls from the neighborhood of Teheran to the United States, for, whichever way they were sent, they would have the hardships and suffering of a long land journey on camels, mules, or horses. It would, however, be possible to export some from Bushire, on the Persian Gulf, providing anyone was disposed to incur the cost and risk. I have no doubt that all the varieties found in other parts of Persia can be procured there. I believe that the United States consular agent at Bushire—Mr. T. J. Malcolm—would be a proper person to address on this subject.

WATSON R. SPERRY,
Consul-General.

TEHERAN, *July 15, 1893.*

PHILIPPINE ISLANDS.

No interest is taken in the rearing of fowls in this consular district.

There are three distinct varieties of fowls in the Philippines. The first of these is divided into three subclasses, namely, the ordinary, smooth-feathered game fowls; the curly feathered kind; and another kind with topknots and beards. All are single crested and of varied color. Another variety is what is called the "Black-bone fowl," which the natives often eat as a remedy for sickness, such as fevers and colds; and they breed them among the other fowls, when there is an epidemic among the latter, to check the malady. The crest, legs, and skin are black, and the feathers are multicolored; they are well feathered and single crested. The third variety is a large, lanky, big-boned, red-skinned fowl, with few feathers and varicolored. These fowls are peculiar to the Jolo archipelago.

The first two kinds are good and the last very poor layers. The Jolo kind is triple crested.

They breed true to type, but always with varied colors.

They breed pure, more or less, according to the provinces; but the Indians take no special care, letting them mix as they choose.

The first two kinds are good sitters, but the Jolo kind are poor sitters, and as a consequence the breed does not greatly increase.

They are kept both for eggs and food.

There are no fancy fowls in the Philippines.

Artificial incubation is not employed.

The climate is tropical.

C. H. COWAN,
Consul.

MANILA, *July 21, 1893.*

SIAM.

INTEREST IN FOWLS.

Special interest is taken in fowls in this consular district.

VARIETIES.

The varieties bred are the Dorkings, Cochin Chinas, Bantams, Battoks, Game, and Brahmas, and Muscovie and common ducks. Turkeys are also raised, but the number is very small, owing to the fact that the eyes of the young are destroyed by mosquitoes. The few turkeys raised are kept under mosquito nets until they are quite large and able to look after themselves.

The Dorking is a grayish-colored chicken, weighing from 5 to 8 pounds; plump; with feathers on legs; large comb; no crest; yellow legs; skin yellowish in color. They are great layers and good sitters, and breed true to type.

The Cochin China is generally black; large bones; long legs and neck, the latter somewhat bare and red; white gills; weighs from 5 to 8 pounds; comb small, stiff, and red; no crest; legs black, without feathers. They are not very good layers or sitters.

The Battok is practically the same as our common fowl in the United States, and assumes all colors. They weigh from 2 to 5 pounds, and are somewhat plump; small comb; no crest; legs short, without feathers; whitish skin. They are splendid layers and sitters.

The Brahmas are white; weigh from 5 to 10 pounds; somewhat roughly shaped; big comb; no crest; yellow legs, some with and others without feathers; yellowish skin. They are fair layers and sitters.

The Game chicken is mostly black; weigh from 3 to 5 pounds; very handsomely shaped; small comb; some with and some without crest; legs black and without feathers; white skin. They are great fighters, and are for this reason greatly admired by the natives. It is not uncommon to see traveling house boats with from three to five fighting cocks walking around on the boat. Being perfect pets, they are at home with such surroundings. One peculiarity about this variety is that its bones are black.

The Bantams can not be described better than by saying that they are the same spunky little pets here as are found in the United States—being the same in almost every particular.

The varieties of ducks mentioned—common and Muscovie—are the same as those found in the United States bearing the same name.

The Guinea chicken is also the same as that found in the United States.

The turkeys are of an inferior bronze variety, and, as previously mentioned, no general attention is paid to raising them.

Geese are the common variety found elsewhere.

BREEDING TRUE TO TYPE AND COLOR.

The most of these varieties breed true to type and color.

No particular attention is paid to raising any variety as a pure breed, except the Game.

PURPOSE FOR WHICH FOWLS ARE KEPT.

The Dorkings and Battoks are kept for their eggs, the Cochinchinas and Brahmas for food, and the Game and Bantams as fighters and pets.

ARTIFICIAL INCUBATION.

Artificial incubation is employed as a common method of propagating fowls.

CLIMATE.

During nine months of the year the temperature ranges from 85° to 105°, the other three months between 60° and 85°. The rainy season commences in April and ends in September.

DEALERS AND EXPORTERS.

As no particular attention is paid to raising the different varieties of chickens as pure breeds, except the Game, and as the poultry industry is entirely in the hands of Chinese, I can give no names of persons from whom they may be procured. Archibald Maclean and Clarke & Co., commission merchants of this city, however, would probably undertake to fill such orders.

ROBERT M. BOYD,

Vice-Consul-General.

BANGKOK, *September 11, 1893.*

TURKEY IN ASIA.

PALESTINE.

Chickens and eggs are staples here. The natives consume great quantities of them, and European families and hotels have eggs and chicken in some form at every meal. At the same time no special interest is taken in raising the fowls. To a great extent they take care of themselves. They are in and out of peasants' houses like the children; in fact, they form a part of the "domestic circle." The climate is such that, except for the heavy rains, they can be out of doors all winter.

Artificial incubation is never employed. There are no fancy fowls; they have bred in and in for centuries, and they are of every variety of color. They have red combs or crests, but have no feathers on the legs.

The general size of fowls here is small, and their eggs, as nearly as I can ascertain after weighing several hundred, average a little less than 11 pounds per hundred. Small or medium chickens cost 24 to 28 cents per pair; large or full-grown fowls cost 48 to 64 cents per pair.

For eggs the average summer price is two for 1 cent. During the heavy weather in winter, when traveling is bad, they average 10 cents per dozen. Occasionally, in very bad weather, they become scarce and the price goes up to 1 cent each; but at such times there is no market for them, for nobody will pay such a tremendous price.

Every family and every village raises chickens, but the chief centers of poultry-raising in Palestine are Gaza, Ramleh, Lydda, and Nablous. As to profit, little can be said. Eggs must be raised and brought to market; and when in Jerusalem a cent will buy two; in Nablous, two days' journey from Jerusalem, a cent will buy three eggs.

SELAH MERRILL,

Consul.

JERUSALEM, *September 12, 1893.*

SIVAS.

As far as I have been able to learn no special interest is taken in fowls in this consular district. My inquiries lead me to believe that the poultry industry is about the same in all the seven provinces embraced in this consular district. I will therefore confine my observations more particularly to the province of Sivas and not attempt to speak so exactly for the 150,000 square miles of the consular jurisdiction.

Fowls are kept in almost every household. They are treated very much like other members of the family, running about indoors and out with the children. They are poorly fed, poorly cared for, and very little attention is given to breeding.

The most numerous variety is designated simply as the "common" kind. It resembles closely the common barnyard fowl of the United States, but is somewhat smaller, and the flesh is less delicate. These fowls are of many colors and shades of color. A few are white, but most of them are brown, gray, or speckled. The cocks generally have reddish-bronze-colored feathers on the neck and tail; their combs are of moderate size; rather large wattles; legs are generally yellow or grayish yellow; small spurs; one toe behind. The hens have small combs. The color of the legs is generally in keeping with the color of the feathers, hens with white feathers having nearly white legs and hens of darker colors having darker-colored legs. The skin is yellowish white.

They are moderately good sitters, but the question of sitting seems to be one of temperament and not a general rule for the whole family.

Fowls are kept chiefly for eggs.

Several varieties of fowls have been imported from time to time. The imported varieties have not been kept pure, but have been allowed to mix freely with the common kind. In the mixing the imported variety gradually loses its peculiarities in the common race. The most numerous of the imported varieties are the Rumili fowls, brought originally from Rumili. They

are somewhat larger than the common sort. They have a tendency to grow feathers on the legs and crest. They are black, dark, speckled, and, rarely, white. They lay fewer eggs than the common variety. Their eggs are larger and darker colored. The flesh is more juicy and finer flavored than that of the common variety. One sees evidence of the mixing of other breeds with the common kind. The peculiar features of Shanghais, Cochins, Bantams, and Polands are seen to some extent, but not in a pure state. One variety is more or less unique. It is characterized by feathers which curl up and have a tendency at the tips to point toward the head. In other respects it does not differ materially from the common variety. It is called "feelik tawook."

Including turkeys, geese, and ducks under the term fowls, no special points of interest are to be observed. These fowls are of a mixed race, differing in no essential peculiarities, as far as I can learn, from the common varieties of the United States. The turkeys are generally smaller than the American. The usual color is mottled gray. One variety which breeds true to type is pure white and has rather larger and softer feathers than the common sort. It is said to have been brought here from Monastir. The ducks and geese are of no special interest, both being of mixed races, like the common mixed varieties of Europe and America. Some of the geese have fluffy, moderately curly feathers. A few Guinea fowls are found here.

Artificial incubation is not employed in the country.

Most of the country is very mountainous, elevated from 3,000 to 8,000 feet above the sea. The summers are hot, and the winters long and cold.

Cazanjan & Odatasian, Samsoun and Sivas, will execute any orders for buying fowls for export.

M. A. JEWETT,

Consul.

SIVAS, *August 22, 1893.*

SYRIA.

INTEREST IN THE INDUSTRY.

The interest taken in fowls in this consular district is rather limited, although the conditions for their breeding are favorable, such as a moderate climate and cheap grain, food, etc. The native population of Syria, and particularly the peasants, or "fellaheen," without exception, keep fowls, as do also the inhabitants of towns, wherever space allows. Those of the city people who keep fowls do not undertake the work for profit or as amateurs, but simply with the object of having at home fresh eggs or well-fed poultry for the table. This is why no serious attention is devoted in cities to the breeding of fowls, except such as the servants of the house may be disposed to give during their leisure moments.

The only branch of bird industry in which some city folks take a prominent part is the breeding of doves and pigeons, several varieties of which exist at Damascus, Aleppo, Hamah, Homs, etc., where the few amateurs vie with each other in keeping and breeding the rarest kinds and in enticing to their pigeon houses the birds belonging to their neighbors.

VARIETIES.

The only varieties of domestic fowls kept as a rule by the people of this country are the native breed of cocks and hens, the Stambouli, and the Shanghai, or Cochin China.

The native breed kept by the Syrian peasants is a bird of small size, with legs $2\frac{1}{2}$ to $3\frac{1}{2}$ inches high, the height from the foot to the summit of the back being $6\frac{1}{2}$ inches. It weighs alive $1\frac{3}{4}$ to $2\frac{3}{4}$ pounds. The feathers exhibit nearly every color, the prevailing hues being gray, spotted brown, reddish brown, coal black, rusty black, and pure white. The last-mentioned color is comparatively uncommon. As the domestic fowls kept by the country people are generally compelled to look after their food on the extensive manure hills which exist in the vicinity of every village, on the thrashing floors, and in the streets and fields, their shape approaches more to that of a wild bird, and, in fact, they are lighter in weight, smaller in size, and have larger wings than the ordinary domestic poultry of the United States. The Syrian domestic birds fly without any visible effort over high walls and hedges, and instead of staying in the coops prefer spending the night in the cactus hedges, on the mulberry trees or thorn bushes, where they are, unfortunately, exposed to their natural enemies—the jackal (Syrian fox), the ichneumon, and the snake. The combs of the country fowls are small, notched, and not so brightly red as the combs of those kept in towns and cities. The absence of crests and of feathers on legs is the rule, but the presence of a comb is almost universal. The color of legs is either yellow, yellowish green, gray, or blackish. The skin of the first three specimens is white; that of the black-legged, black-feathered, and black-eyed fowls is, with very rare exceptions, dark. The flesh of the latter is believed to be the most delicious of all, although the color is not inviting. The eggs of the Syrian hen are small and have an average weight of half an ounce each. The cocks and hens bred in town differ slightly from those of the country. As the food of the former is more plentiful and intermixed with vegetables and meats, and as they are more confined, their size and weight are greater, while the color and shape remain nearly the same.

The Stambouli is a kind of fowl which, although strong and large, is less prolific in eggs. This variety was originally brought from Constantinople to this country. It is distinguished by its pure black feathers, its tall and slender frame, as well as by the plumy crest which crowns the heads of both cocks and hens. Pure-bred hens are combless, but the cock may have traces of a small reddish comb. The average height of a Stambouli cock to the top of the middle of the back is 14 inches and that of a

hen 12 inches. The length of the cock from the head to the tip of the tail is 22 inches, while that of a hen, whose tail is shorter, is $12\frac{3}{4}$ inches. The legs of this variety of poultry are dark and without feathers. The eggs have a white-colored shell and are not much larger than those of the native birds. This kind does not fatten readily, even when carefully attended to and nourished with rich, plentiful food.

The main characteristics of the Shanghai (Cochin China), or "Indo-English," breed are a thick, yellowish coat of feathers, a high and sturdy form, heavy gait, long feathers that cover the legs, small comb, and absence of crest from the head of both cocks and hens. In size this variety is much like the Stambouli breed, but heavier and broader built. The eggs of this kind have a creamy hue and are but a little larger than those of the Syrian fowl. The Shanghai hens are poor and slow egg-layers.

In this connection it is worth remarking that birds of the Stambouli and Shanghai, or Cochin China, varieties kept by Syrian fowl-breeders are rather rare and can not therefore be considered as local breeds.

BREEDING TRUE TO TYPE AND COLOR.

The last two varieties of fowls breed true to type and color, but the native one does not.

None of the Syrian fowls are bred as pure races.

SITTERS AND NONSITTERS.

The hen and turkey breeds of this country are sitters. When the warm days of February and March set in, the "fellaheen" women save a number of eggs, choose the largest ones, and give 15 to 25 eggs to each brooding hen for hatching.

The incubation or brooding term is generally twenty to twenty-two days. When the little chickens are hatched, they are given minced boiled eggs or finely crushed wheat for food during two or three days, after which they are allowed to run with their mothers and shift for themselves from such picking as they can find around the farm or on the dunghills. These native fowls, with few exceptions, brood once in a year, very seldom twice.

PURPOSE FOR WHICH FOWLS ARE KEPT.

Poultry is kept both for eggs and food. Though eggs constitute an important factor among the food articles of the Syrian peasants, the flesh of the poultry is used to a great extent as food by weak and sick persons, which causes good markets in the towns and cities for poultry. Fowls with short legs are much preferred for food. In June and July the "fellaheen" and mountain women bring down the young chickens to the town markets. A good, full-grown hen is usually sold for 20 to 30 cents, a cock for 20 to 25 cents, and a pair of spring chickens for 17 to 20 cents. A dozen eggs cost

about 5 cents in summer, though in winter eggs can not be had for less than 10 cents, and, if quite fresh, 15 cents per dozen.

FANCY FOWLS.

The Shanghai and Stambouli breeds are the only fancy fowls kept in Syria, and these are kept only to a small extent. The Shanghai breed, which was imported from Egypt, as well as the Stambouli variety, has not proved to be successful. The hens, though not active in laying eggs, are rather good sitters. They are, however, not usually very attentive to their little ones, which are found comparatively delicate and unable to resist the climate. In the Temple colony (composed of American and German colonists), near Haifa, a city situated at a distance of about 85 miles southwest of Beirut, a better result was obtained from the white and yellow feathered Italian fowls, which were imported from southern Italy. This variety, although smaller than the Shanghai, stands the climate well and is as active in breeding as the indigenous fowls; and the size of the eggs is only slightly smaller than those of the Shanghai hen. The colonists have lately tried a crossing of native and Italian breeds, and the results are very promising.

ARTIFICIAL INCUBATION.

Artificial incubation is not employed in this part of the Turkish Empire as a common method of propagating fowls.

CLIMATE.

There are few countries of the extent of this consular district in which the climate is so varied.

On the littoral the weather is generally hot and damp during the summer months, while the winter is pleasant and healthy, the thermometer ranging from 85° to 35° F., according to the season. In the high interior regions, as well as on the mountains, the temperature is dry and rather cool during the summer season; rather warm in spring, on account of the sirocco winds which then prevail; and severely cold in winter. The thermometer fluctuates during the course of the year between 80° and 30° F. The slopes of the Lebanon are most agreeable, as moderate weather prevails the year round.

In the southern parts of Syria the rains begin about the end of October, *i. e.*, after the hot months, at which period the "fellaheen" commence to plow and sow during the fine weather that succeeds this early rain, which lasts for some weeks. It then rains heavily in the early part of December. In January and February the rain is generally accompanied by snow on the mountain and in the interior and by hail along the coast. Cold, stormy weather prevails, as a rule, about the last part of February and during the month of March. April and May are the pleasantest months of the year all over the country. The rainfall during the winter varies between 30 and 45 inches.

FOWLS FOR EXPORT.

Fowls for export to the United States could be obtained only in small quantities, and ample notice should be given beforehand. The suitable season for export is July, after the crops. No firm in Syria has hitherto exported fowls or attempted to do so as a matter of business, but the American firms of Immanuel Struve and Messrs. Weberruss & Co., at Haifa, Syria, are disposed to comply with any proper and moderate demand.

CONSTANTINE KHOURI,

Acting Consul.

BEIRUT, *August 14, 1893.*

AUSTRALASIA AND POLYNESIA.

AUSTRALASIA.

INTEREST IN FOWLS.

Poultry as an industry has not, up to the present time at least, received much attention in New Zealand. The farmers of the country, it appears, do not find poultry-raising very profitable; consequently they do not raise more than is necessary for home consumption. There are, however, many fanciers who pay considerable attention to the introduction of "fancy" fowls, but those who are thus engaged are largely confined to the principal towns of the colony. The great bulk of the poultry reared in the country districts is of the common, mixed, or barnyard varieties, and is raised only for laying and table use, being small and weedy. The people near the more populous centers are of late years beginning to take greater interest in poultry-raising. This interest is manifested by holding annual competitive poultry shows in various districts throughout the colony. These shows are largely attended by those who take an interest in the poultry industry. In many districts the exhibits have increased fully 50 per cent in the last two or three years.

It is not, however, likely that for years to come New Zealand, owing to its remoteness from the great centers of population and the principal markets of the world, will do more than raise enough fowls for its own immediate use.

VARIETIES.

Many of the varieties in New Zealand are found in the United States. Of these it is scarcely necessary to say much in this report. I will, however, refer briefly to the peculiar characteristics of the several breeds.

Game fowls.—There are seven varieties kept here, namely, black red, brown red, pile, duckwing, white, black, and Malay Games. The average weight of these is about 10 to 14 pounds. The males in each instance are dubbed, *i. e.*, their combs are cut off when young, a custom established when they were used for fighting purposes, and still adhered to.

Spanish.—Only the black species are found here, and even these are becoming very scarce, as their chickens are delicate and difficult to rear. They are, however, excellent layers, but nonsitters. Their flesh is dark, and in consequence of this is not in great demand for the table. This breed does better in the north island of this colony, owing to its more temperate climate, than in the southern portion of the country.

Leghorns.—There are two varieties found here—brown and white—and both are deservedly popular, being good layers and very handsome in appearance. They are nonsitters.

Langshans.—This is one of the large breeds, resembling the Cochins in appearance, but somewhat longer in the legs and not so heavily feathered. They are mostly black in color and are not often met with, as they are poor layers and are not regarded as being first-class table birds.

Houdans.—This breed is very scarce here. They are not unlike the Polish in appearance, having a heavy topknot. These birds are highly appreciated both for laying and food purposes.

Polish.—Of this breed there are four different varieties found here, namely, golden, silver, white-aester (*sic*), and plain. They are about the same size as Hamburgs and have much the same appearance, with the exception of their topknots. These fowls are not, as a rule, kept for laying purposes, but more as fancy fowls. At the same time their flesh is much prized for table use.

Bantams.—There are a great many varieties of these kept, but merely as fancy birds, their eggs being small and of little value. Their average weight is from 3 to 6 pounds, and they are considered very good for table purposes.

Hamburgs.—This is another small breed, and consequently is kept more for ornamental and show purposes. They are, however, fair layers, and are known as nonsitters, as the hens are very rarely known to sit in these parts. Of these there are five varieties, namely, golden penciled, golden spangled, silver spangled, silver penciled, and black. The last named are very rare and only kept by a few fanciers.

Plymouth Rocks.—This, of course, is an American breed, in consequence of which it is needless to say much here. I may say, however, that this particular breed has come into great prominence since it was first imported a few years ago. For general excellence the fowls of this breed are superior to all others, for, besides being good layers, they are very good for table use. They are extremely popular with the farmers and others on account of the hardiness of their chickens and the early maturity of the young roosters for market purposes. Altogether there is no better or more appreciated fowl in New Zealand.

Brahmas.—This is a comparatively rare breed here, and for the most part kept by fanciers only. They are considered as good winter layers and very acceptable as table birds.

Dorkings.—This is also a rare breed, but are excellent domestic fowls and largely resemble the Plymouth Rocks in many qualities, but not in appearance, being much lower set, with longer, but not broader, bodies. They have white or silver-gray legs, sometimes a little darker colored perhaps. There are only two varieties—silver and dark, or colored.

Cochins.—Three varieties of these are found here, viz, buff, partridge, and white. They are a large and commanding-looking fowl, but are kept

more for fancy purposes than for general use. They are very good sitters and are winter layers.

Andalusians.—This breed is not very generally found in the colony, at least not to any considerable extent. They in many respects resemble the black Spanish in quality. They are regarded as good layers, but nonsitters.

Minorcas.—This breed largely favors the Leghorns in respect of quality, but are black in color. They are nonsitters.

Wyandottes.—This is another American breed which has just lately come into considerable prominence on account of their good laying and other qualities, which it is scarcely necessary to mention here.

Redcaps.—These are rather small and are not much admired. They are poor layers, but fair table birds. Their average weight is about $5\frac{1}{2}$ to 7 pounds. There are very few of them to be found here now, owing to their general worthlessness. Many people who are engaged in the poultry industry say that in a few years this species will be entirely extinct in the colony. Their breeding is a cross between the Black Hamburg and some inferior breed whose name I have been unable to ascertain.

*Silkie*s. —This particular breed is regarded as being of no commercial value. Their weight ranges from 3 to 4 pounds. They have blue eyes and face; white, fluffy plumage, and present a sickly, uninteresting, and uninviting appearance. Generally speaking, they are neither useful nor ornamental.

BREEDING TRUE TO TYPE AND COLOR.

With very few exceptions, each variety mentioned breeds true to type and color. Nearly all the breeds referred to are bred as pure races, but, of course, are intermixed in some instances when they are distributed among the farmers and poorer people, who rarely keep any fowls except what are designated as a mongrel breed, which to them prove more profitable both for laying purposes and table use.

SITTERS AND NONSITTERS.

With few exceptions, the breeds enumerated are all sitters. These are Hamburgs, Leghorns, Minorcas, Andalusians, and Spanish. Although the latter varieties are known as nonsitters, yet it is alleged by many people that occasionally each of the nonsitters referred to is known to sit; but, of course, this very seldom happens, and the name of nonsitters still adheres to them.

PURPOSE FOR WHICH FOWLS ARE KEPT.

In the course of my inquiries on this subject I have been unable to ascertain whether any varieties are kept for any particular purpose. At the same time it is generally conceded that the heavier kinds, such as Brahmas, etc., are more adapted for table use than for laying; and likewise such breeds as Leghorns and Minorcas are regarded as being more profitable for laying than they are for food. Such fowls as Bantams, Hamburgs, Malays, Guinea

fowls, and peafowls are usually looked upon as fancy fowls, and are kept more for ornament and show than for profitable purposes—more especially the latter breeds, which are very rare indeed.

ARTIFICIAL INCUBATION.

Very little artificial incubation is employed up to the present. It may be mentioned, however, that in some districts from time to time spasmodic attempts have been made to raise poultry on a large scale by means of the incubator; but in nearly every instance the attempt has been abandoned, owing partly to want of proper knowledge as to how the incubator should be manipulated and partly to the want of a good market for the young chickens.

CLIMATE.

The climate of New Zealand generally is most favorable for raising poultry. It is very mild, indeed. The cold is not excessive in winter, neither is the heat oppressive during the summer months. Eggs, as a rule, are plentiful the year round.

DEALERS AND EXPORTERS.

The poultry industry, as I stated at the beginning, is not on a very extensive scale, nor is it likely to be for some time to come. There is one American breed in great favor here at present, and that is the White and Brown Leghorn. Quite a number have already been imported and are giving the greatest satisfaction.

For any additional information, letters addressed to the secretaries of the poultry associations at the following centers will be replied to: Auckland, Wellington, Christchurch, Dunedin, Napier, Wanganui, Palmerston North, Blenheim, and Nelson, New Zealand.

JNO. D. CONNOLLY,

Consul.

AUCKLAND, *August 25, 1893.*

INTEREST IN FOWLS.

Owing to the impetus given to this business by the regular agricultural and other shows held throughout the colony, and the interest manifested by the various societies established for the encouragement of this particular industry, more attention is now being evinced by the people generally, especially in the breeding of fancy classes of fowls.

VARIETIES.

As a rule, the farmers do not encourage the rearing of the fancy species, being content with the ordinary common varieties about their homesteads. Some show an inclination toward the heavy breeds, which are crossed with halfbreed Cochins and Brahmas; others have a preference for the Malay,

and experience shows that when this variety is crossed with the Australian Game hardy and meaty birds are obtained. No particular type, however, is to be found about the average homestead. Each farmer appears to enjoy variety in every way. It is not uncommon to see crested and plain heads, large and small combed birds, feather legged and clean legged about the farm. Town people, however, appear to have taken more readily to the breeding of fancy fowls. At the present time the most popular breeds are the Australian Game, Brown and White Leghorns, Plymouth Rocks, Langshans, British Game, Wyandottes, Aylesburys, and Pekings. As the characteristics of most of the above varieties are well known, I will not describe them here, with the exception of the Australian Game. These are fine, hardy specimens of fowls, easy to rear, are plump, and mature rapidly. Cocks weigh 8 pounds at $6\frac{1}{2}$ to 7 months, and some have been known to go to 11 pounds, and hens to 9 pounds.

In consequence of this particular race being very carefully worked up, they now breed true to type and color, and are found in black red, duckwing, pile (white and black), and also cuckoos. The imported species, such as the American, English, and French, of course, also breed true in the above respect.

The Australian Game are now bred as a pure race and are considered good sitters. It is about the best combination known here for eggs and food, the farmers depending principally upon the former, as they realize at market by auction from 18 to 60 cents per dozen, according to season.

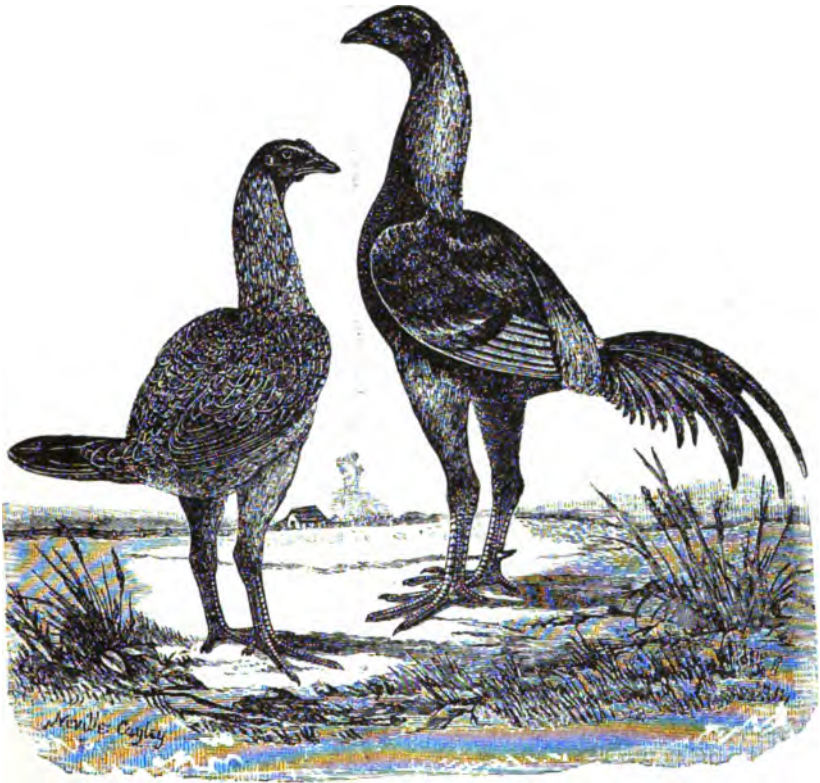
With the exception of the various imported breeds, such as Cochins, Langshans, Orpingtons, Brahmas, Spanish, Houdans, Dorkings, Plymouth Rocks, Wyandottes, Malay Game, British Game, Leghorns (white and brown), Minorcas, Andalusians, Hamburgs, Bantams (chiefly British Game), Aylesburys, Pekings, and Rouens, there are only the Australian Game, the general characteristics of which I will endeavor to enumerate.

Cock.—Head rather long and fairly thick; beak very strong, slightly curved, and especially stout where set on; comb not to grow on poll; deaf ears and red throat, fairly smooth and not too fine in texture; eyebrows slightly lowering; neck long and slightly arched; short hackle; body stout and strong, largest at shoulders; back flat, widest at shoulders, strong at hips, and tapering off toward tail; shoulders high and square; breast hard and full, but not deep; saddle fairly narrow; feathers short, like hackle; wings very strong, fair length, and the points well clipped under the saddle feathers; legs and thighs fairly long, round, and hard; shanks long and beautifully scaled, inclined to be roundish, neither flat nor quite round; strong spurs, set low and to point rather backward; feet flat; toes fairly long, straight, and strong; well spread and medium talons; hind toe straight backward and nearly flat out from the foot; tail moderate in length, not too much spread or close, and carried slightly drooping; the tickle feathers to clear each other and slightly curved; plumage sound, glossy, and hard; size large, ranging from 8 to $9\frac{1}{2}$ pounds at 10 to 12 months, and 9 to $10\frac{1}{2}$

pounds at increased age. In general appearance it is strong, active, vigorous, upright, smart, and bold.

Hen.—Characteristics similar to those of male bird. The comb must not grow to poll, should be small, and come back to point, with tiny indentations. What is required is often described as a “pea comb.” It is large, from 6 to 8 pounds.

As this race is really the only Australian production of a new breed of poultry, I attach herewith a print taken from the *Agricultural Gazette*, a journal published by the government department of agriculture, which may give a general idea of the appearance of these fine birds.



AUSTRALIAN GAME.

ARTIFICIAL INCUBATION.

As a rule, artificial incubation is not resorted to in this colony as a common method of propagating fowls, what is done in this direction being by fanciers, and they are few in number.

CLIMATE.

The investigations of the government astronomer of this colony conclusively prove from the records of temperature extending over many years that this climate is one of the most salubrious, temperate, and uniform in the world.

Average temperature of Sydney for each month from 1859 to 1891.

Month.	Mean temperature (in shade).	Average reading of maximum thermometer (in shade).	Average reading of minimum thermometer (in shade).
January.....	71.5	78.2	64.8
February.....	70.9	77.1	61.6
March.....	69.3	75.5	63
April.....	64.8	71	58.3
May.....	58.5	65	52
June.....	54.5	60.7	46.7
July.....	52.5	59.1	45.7
August.....	55	62.6	47.5
September.....	58.7	66.2	51.2
October.....	63.3	70.9	55.7
November.....	66.4	73.8	59.2
December.....	69.8	77.1	62.5
General average.....	62.9	69.8	55.7

Sydney being the business center of New South Wales and also the principal shipping port in Australasia, there is yearly a great consumption of poultry, not only by its inhabitants, but by the large passenger steamers trading between Europe and this port. The poultry is brought to the local market from the adjacent farms and disposed of by public auction at prices ranging from 36 to 72 cents per pair, according to supplies. This refers to the common fowl for domestic use.

For the fancy breeds enumerated, Mr. W. H. Webb, of Bathurst, New South Wales, is the best authority to refer to, and from him supplies can be obtained. This gentleman has a great reputation in this business, has always taken the greatest interest in anything pertaining to it, has imported and bred pure poultry for a number of years on an extensive scale, and has been a large prize-winner at the various agricultural and other shows. He is the proprietor of the "Kululu Yards," Bathurst, a large city some 145 miles from Sydney, where this industry is conducted on the most complete and comprehensive scale. I inclose his price list.

Price list of fancy fowls.

Description.	Eggs per dozen.	Birds per pair.*
	<i>s. d.</i>	<i>Shillings.</i>
Australian Game, black red (cock first N. S. W. P. P. C. and D. Society, 1889 and 1891).....	63 0	} 30
Australian Game, black red (cock, second Hawkesbury, 1890).....	42 0	
Australian Game, black red (grand birds).....	21 0	
Australian Game, pile (cock grand style, never shown).....	21 0	
Australian Game, duckwing (fine quality birds).....	21 0	42
British Game, black red (cock Gulliver-Heaton, imp., champion N. S. W. P. P. C. and D. Society, 1891, and numerous firsts)—few only for sale.....	105 0	} 42
British Game, black red (cock "Sensation," crack son "Gulliver-Heaton," very tall and stylish, and selected hens).....	63 0	
British Game, black red (cock son "Gulliver-Heaton").....	21 0	
British Game, pile (fine, stylish birds).....	42 0	
British Game, duckwing (cock son imported Heaton, cost £48 pair).....	42 0	.....
British Game, brown red (fine, stylish birds).....	42 0	.....
Malay Game, black red (cock imported Mauritius blood, and half brother to N. S. W. P. P. C. and Dog Society first, 1891).....	42 0	42
Langshans (cockerel, second N. S. W. P. P. C. and Dog Society's Show, 1891).....	42 0	} 30
Langshans (cock, third N. S. W. P. P. C. and Dog Society's Show, 1891).....	21 0	
Orpingtons (great layers, one hen in pen winner Bathurst, 1891).....	42 0	.....
Light Brahmas (cock highly commended N. S. W. P. P. C. and Dog Society's Show, 1891).....	42 0	42
Plymouth Rocks (cockerel first N. S. W. P. P. C. and Dog Society's Show, 1891, cost £10 10s., and selected hens).....	42 0	} 30
Plymouth Rocks (cock first Bathurst—considered pullet breeder—from imp. Stacy).....	42 0	
Plymouth Rocks (cocks bred from imported strains).....	21 0	42
Minorcas (cock first N. S. W. P. P. C. and Dog Society's Show, 1891).....	21 0	42
Houdans (grand birds, from imported bred stock, one hen won first N. S. W. P. P. C. and Dog Society's Show, 1890 and 1891).....	31 6	42
Leghorns, brown (cockerel second N. S. W. P. P. C. and Dog Society's Show, mated to two grand Rudd hens).....	42 0	} 30
Leghorns, brown (nice, useful birds, great layers).....	21 0	
Leghorns, white (Rudd's birds, recently purchased).....	21 0	.....
Dorkings (cock first Bathurst, hen third N. S. W. P. P. C. and D. Society's Show, 1891).....	21 0	.....
Hamburgs, silver spangled (cock winner cup Melbourne, 1888, and 19 other great prizes New South Wales—mated specially for breeding show birds).....	42 0	.....
Hamburgs, black (cock Rudd's first N. S. W. P. P. C. and D. Show, 1891, hens Rudd's from imported).....	42 0	.....
Ducks, Aylesbury (imp. Digby drake, first and second Sydney, 1891).....	42 0	} 30
Ducks, Aylesbury (sons imported drakes Digby and Weston).....	21 0	
Geese, Toulouse.....	21 0	.....

* Minimum.

CHARLES GREY EWING,
Vice-Consul.

SYDNEY, August 17, 1893.

POLYNESIA.

The poultry industry is not followed as a business, or even as a source of profit, in Fiji. Each planter throughout the group raises and keeps a small flock of hens and ducks, a few adding turkeys and geese to their flocks.

The varieties are as promiscuous as are the planters, and no care is taken to keep pure breeds. Every planter and householder in the country has one or more cocks (imported) to run with the native hens, which are quite small.

The native hens, and also the imported breeds, after remaining here a year or two, are persistent sitters.

Each variety is kept for the table rather than for their eggs.

Eggs are imported to some extent, the local supply not meeting the demand, as the planters seldom bring eggs to market.

Artificial incubation is not, to my knowledge, employed in a single instance.

The climate is warm, not varying more than 10° F. during the entire year. The mercury indicates from 76° to 86° F. as the limits of temperature for the year.

ANDREWS A. ST. JOHN,
Commercial Agent.

LEVUKA, *August 1, 1893.*

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